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Effect of the Strong-Campbell Interest Inventory on Adolescent Self-Esteem.

by

(C) Anthony J. Kesler

A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES AND RESEARCH

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE

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.....

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Date.....22 July 1983.....

Dedication

This thesis and the wealth of knowledge I have gleaned over the years are dedicated to Baby Kesler, due in October 1983. I trust that what I have to offer as a father and a friend will only be a help and encouragement to this new person throughout the whole of our life together.

Abstract

Career Counselling using vocational tests increases the client's self-understanding and perception of the world of work, thereby facilitating satisfying career decisions. Adolescents attach great importance to vocational information in attempting to clarify their vocational Self-Concepts. The self-information provided by vocational tests is hypothesized to improve self-understanding and result in higher levels of Self-Esteem.

The primary purpose of the experiment was to assess the efficacy of the Strong-Campbell Interest Inventory in increasing vocational Self-Concept knowledge by improved post-test measures of Self-Esteem. The second purpose was to substantiate recent findings indicating that adolescent males demonstrated significantly higher self-reported Self-Esteem than females. The third hypothesis tested the alternate form reliability of the Coopersmith Self-Esteem Inventory and the Culture Free Self-Esteem Inventory, adult scales.

The sample for the experiment consisted of 27 experimental and 31 control group adolescent males and females. To test Hypothesis 1, control and experimental groups were tested on the two Self-Esteem scales. The experimental treatment which followed included an objective group

interpretation of the Strong-Campbell profiles to the experimental group subjects. Then, both groups were post-tested using the two scales. A two-way analysis of variance with repeated measures was used to determine the effects of the Strong-Campbell treatment on the experimental group.

Hypothesis 2 was tested using a one-way analysis of variance of all pre-test Self-Esteem measures of males and females across the experimental and control groups. Hypothesis 3 likewise compared pre-test Self-Esteem measures of the two scales using Pearson's product moment correlations.

Analysis of the data did not support Hypothesis 1 in that there was no increase in Self-Esteem resulting from vocational self-information furnished by the Strong-Campbell Interest Inventory. However, there was evidence to suggest that males demonstrated higher scores than females only on the Culture-Free Personal Self-Esteem subscale, supporting Hypothesis 2.

Further, results substantiate the assertion that on the basis of full-scale scores, the Coopersmith and Culture-Free Self-Esteem inventories correlate significantly with each other.

In the study, the implications of using recruited subjects over vocational clients was discussed and recommendations for future research were presented.

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This thesis marks a significant step in my academic career and I want to mention those who helped me in this project.

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Finally, Susan, my wife gets a special kudo for proofing the drafts and for patiently waiting out my brief excursion into obsessive-compulsivity while I worked on the thesis.

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I. Introduction

Career Counselling shares similar goals to those of Psychotherapy. In both instances, the process aims at producing "essential changes ... [including]... reorganization or interpretation of personality, modification of goals or [of] pathways" (Raimy 1948, p. 153). Like psychotherapy, Career Counselling, even at the most cursory levels involves itself with Self-Concept theory (Raimy 1948). It focuses on the client's beliefs about himself, which tend to be complex and seminal factors in his own behavior. As its end therefore, Career Counselling seeks at increasing the self-understanding of the client so that he becomes better equipped to make appropriate judgements which result in satisfying employment decisions.

This self knowledge or self perception referred to is phenomenologically a unitary constellation of beliefs and attitudes toward the self: [in Rogerian terms then it is] "the organization of his self reflexive-affective cognitive structure" (Taylor, 1955, p.205). This self-perception or self conceptualization assumes an "organization which involves memorial and situational factors as well as the sense data themselves. Our general behavior, then is to a large extent regulated and organized by what we perceive

ourselves to be" (Raimy, 1948, p.154).

Vocational testing, an aspect of Career Counselling, is principally designed to contribute in a positive manner to the client's self-understanding or self-knowledge in order to consolidate or clarify his self-concept in the vocational world.

The results of Vocational testing can, in general be a source of "emotionally charged" information for the client. The Canada Employment and Immigration Handbook on the use of tests in Employment Counselling (1977), cautions that in the hands of an inexperienced counsellor, damage can be rendered to the client's self-image, his aspirations and subsequent career decisions. Obversely, in the hands of a skilled, sensitive, realistic and knowledgeable counsellor, the information gleaned from a vocational test or tests can be used to promote the growth and Self-Esteem of the client. Super (1957) indicated that Career Counselling with testing tends to be a more successful method of vocational development. He argued that testing can facilitate the increase in self-understanding and clarified aspiration which together may result in facilitating satisfying employment decisions.

The Interest Inventory is but one of a host of tools in the Career Counsellor's vocational test kit. The inventory provides the client with an accurate and concrete source of information regarding potentially satisfying occupations.

The Strong-Campbell Interest Inventory (SCII), in the form of occupational titles and behavioral descriptors, indicates those careers that are likely to meet with related social needs of the client's Self-Concept (Super 1957). The outcome of the Inventory is a profile that reflects important information about the client's Self-Concept. It indicates the client's own personality description based on Hollands' six personality types and provides a list of occupations which the client appears most suited for based on his own response pattern.

The "self information" rendered by the SCII, by virtue of its results can have one of two potentially positive outcomes. One, it may tell the client relatively little "information" that he does not know already about his career preferences and character. On the other hand, it may reveal to the client his own particular pattern and strength of preferences and aversions, providing a sharply defined view of the self and his own relationship to wide areas of occupational choice (Remenyi and Fraser, 1977). The Manpower Handbook suggests that "the feelings of satisfaction which the individual gains from recognizing his perceptions in a clearer form may be a worthwhile outcome of counselling" (1977, p.16). Williams (1962) has suggested that individuals attach great importance to vocationally relevant information as a means of problem solving. Huckabay and Arntd (1979) as well have shown that self-

information feedback is important to the individual in terms of Self-Concept self-evalution.

It is therefore suggested that this "self information" as perceived by the client will either confirm self-perceptions the client has about his self, or will clarify the Self-Concept in the pertinent area of career concerns.

A. Purpose of the Study

The primary purpose of the present study was to determine if the vocational self-information provided by the Strong-Campbell Interest Inventory would in fact produce a change in General Self-Esteem. The study utilized the Coopersmith Self-Esteem Inventory and the more recent Culture-Free Self-Esteem Inventory to make this determination.

The subjects for the study were adolescents in grade eleven who were indicated in the literature to be appropriate for and would benefit from exposure to the Strong-Campbell Interest Inventory in terms of career planning.

Specifically the study addressed the following questions:

1. Do subjects who receive Strong-Campbell Interest Inventory benefit from this experience by way of increased measures of Self-Esteem over those who do not receive such information?

2. In the light of current research (Bohan, 1973; Hanes et al., 1979; O'Donnell, 1979; and Rosenkrantz et al., 1968): Do males demonstrate higher levels of Self-Esteem than females?
3. Does the relatively new Culture-Free Self-Esteem Inventory provide alternate form reliability with the Coopersmith Self-Esteem Inventory as purported by Coopersmith (1981)?

B. Definition of Terms

In the literature, the term Self-Esteem is often used interchangeably with Self-Confidence, Self-Respect, Self-Concept, Self-Image and Self-perception. Pendergast et al. (1974) and Korn (1972) have noted that these terms are used synonomously in research literature despite attempts by social scientists to theoretically clarify such concepts allocated to the Self. Pendergast et al. (1974) conceded that in spite of the controversy over clarity, these terms are used to communicate a sense of basic understanding about oneself and to provide a frame of reference by which the individual perceives and evaluates the Self in social-environmental terms and conditions.

These variables can lead to confusion when comparing results of different studies. Therefore, rather complete definitions and descriptions of all the major terms of this study will be provided.

1. Self-Concept, refers to the individual's "constellation" of beliefs and attitudes about himself. Phenomenologically, Taylor (1955) referred to Self-Concept as the "organization of person's self-reflexive, affective-cognitive structures" as demonstrated in self-description or self-perception (Huckabay and Arntd 1979, p.317). Ellis (1980) indicated that Self-Concept encorporates the "bodily and psychic totality" of the person.

This complex of perceptions is hierarchical and may be summed up in an all-encompassing global attitude. That is, Self-Concept is the result of a significantly large "complex synthesis of elements" (Rosenberg 1979), wherein the relationship of elements is based on a weighting factor and the combination of elements are organized in a highly personal manner for each individual. Moreover, this Self-Concept a person has resists change once it is established. However, as Coombs and Snygg (1959) recognized, changes in Self-Concept are possible: "An adequate Self must be stable, but not rigid; it must be changing but not fluctuating" (Coombs and Snygg, 1959, p.157). Self-concept is considered a reflexive perception (Wells and Marwell, 1976) of all that one is in terms of experiences, capacities, personal attributes (Coopersmith, 1967), roles and values (Bean and Lepka, 1980). Self Concept is a reflexive perception where the individual involved in the perception is himself the object of his perception; the

object and the observer are one in the same.

To sum up, personal attributes are: "intrinsic qualities or characteristics and capacities are powers and abilities. Self-Concept is descriptive rather than evaluative in nature and is measured as a trait within any one individual in terms of whether it is clear or confused, stable or unstable, complete or incomplete" (Magill, 1983, p.2).

2. Vocational Self-Concept is defined as the "constellation of self-attributes considered by the individual to be vocationally relevant, whether or not they have been translated into a vocational preference" (McMillan 1977, p.4).

3. Self Esteem refers to an individual's chronic or global negative or positive evaluation of the Self-Concept. As with the term Self-Concept, it too is a rather enduring characteristic and is not prone to abrupt shifts in valence from one situation to another (Bachman and O'Malley 1977). Basically, it is an individual's evaluation of himself (O'Hara and Tiedeman, 1959). Consequently, if one considers one's Self-Concept in a positive sense or with high Self-Esteem, then that person considers himself to be of worth, although not usually superior to others. A person with low or negative Self-Esteem, on the other hand, is exhibiting or demonstrating a sense of self-rejection, self-dissatisfaction or in the extreme, self-contempt (Simmons et al

1979). Some researchers have also come to describe Self-Esteem as a motive as well. Self-Esteem is active in the necessary preservation or enhancement of the Self-Concept (Elliot 1982; Rosenberg 1979). Festinger (1954) described Self-Esteem as a perception of worth based within the framework of social comparison between the Self and significant others. Thus, Self-Esteem behaves as a mediating variable in the Self-System. It functions to maintain the constituents of the Self-concept in the light of new Self-oriented information, or under conditions of stress and strain (Ziller et al 1969).

To conclude, Self-Esteem is an evaluative assessment one makes regarding one's worth, significance, capabilities and performance, and is described in such terms as negative or positive, high or low (Beane and Lipka 1980; Coopersmith 1967; Magill 1983).

Put succinctly, Self-concept is what I perceive that I am and do, and Self-Esteem is how I feel about or value that self-perception.

4. Interest refers to a habitual and active cognitive behavior towards various activities or objects (Strong 1951). It describes attention directed to an object of special focus to oneself or in one's mind. In the generic sense Interest is "the conscious feeling or concernment in an object" (Funk and Wagnalls Standard Dictionary of the English Language 1963).

Given the nature of the topic at hand, Interest has also come to be related to Vocational Psychology and career development. It reflects the vocabulary of the working world, its value systems, financial and other contingencies (Crites 1969). Interest is a behavior that demonstrates an orientation toward an occupation or a general family of occupations. As Nevas (1976) pointed out, an interest is associated with some aspect of work in: a field, a service, science, business or technology. Thus, Interest "becomes an attraction to a job for what ever reasons an individual may have" (Nevas 1976, p.13).

5. Adolescence refers to the period in human physiological development between the onset of puberty and complete maturity. By convention, the age span includes the period between twelve years and eighteen years inclusive. In psychological terms it also represents the transitional period between childhood and adulthood; a time when childish things are put away and adult responsibilities and self-sufficiencies are established and assumed.

6. Vocational Choice is a purposeful behavior wherein the person comes to grips and considers genuine factors present both within himself and in the environment he is oriented towards. Vocational Choice as a term, relates to those factors as they may affect his employment and progress in an occupation and selection of the appropriate one that he interprets or perceives will provide him with the greatest

measure of success and satisfaction (Crites 1969).

This chapter described the nature of the problems and provided definitions of the significant terms of the study. The following chapters will present: a review of conceptual and research literature pertaining to the study; a description of methods and procedures utilized in the experiment; and results and a discussion of the outcome of the analysis of data.

II. Review of Related Literature

The review of literature shall be presented in three parts. The first section will present a conceptual framework of the formation of Self-Concept and Self-Esteem. Second, the author will present the work of Erik Erikson together with existing Occupational Psychology theory and research regarding the formative years of adolescence. Third, a review of the literature will summarize current and relevant research regarding the themes in adolescence regarding: Self-Esteem, sex differences and stability; vocational research, and self-information related to Self-Esteem.

Numerous writers and theorists have worked toward the formulation of a conceptual framework describing the nature and development of Self-Esteem and Self-Concept (e.g., Cooley 1902; James 1890). One influential spokesman has been G.H. Mead, a Social Behaviorist who viewed the Self as a social product: the product of the social side of human experience (Mead, 1934). The structure of the Self is unique and yet as a social product is constructed from that which is common to all. The mechanism by which Self-Concept formation occurs is Symbolic Interaction (Mead, 1934), for it is in the interaction with significant and generalized

others that the individual assimilates perceptions which others hold of him into his own Self-Concept and Self-Esteem (Bledsoe and Wiggins 1973; Coombs and Snygg, 1959; Sullivan, 1953).

The mode of exchange in Symbol Interaction is the universal medium of communication in the form of gestures and language set in complex cooperative behavior (Mead, 1934). The symbolic meaning of the gesture or the word takes on a universal meaning that exists for the individual involved in conversation. Mead observed that symbolic communications facilitate more than just the understanding of the other person: "Our thinking always takes place by means of symbols (Mead, 1934, p.138)". Lindesmith (1956), one of Mead's contemporaries described the genesis of Self-Esteem and Self-Concept in the following way.

> The self is not a substance as much as a process which the conversation of gestures has been internalized within organic form (p.178). The Self is not a substance that exists first and enters into relationships with others, but it is so to speak an eddy in the social current and so still part of the current (p.182).

Social interaction using significant gestures and verbal symbols becomes directed not only to others, but also to the individual himself (Mead, 1934). Thus, if certain members of a social unit identify and value particular qualities an individual possesses, he is likely to value

these attributes as important to himself.

Heiss (1981) found a general tendency for the individual to internalize such perceptions others hold of him into his own Self-Concept and concomitant Self-Esteem system. Any self-evaluation or personal value system becomes based on the internalization of society, using society as a yardstick or reference point. Heiss, also found that the individual's assimilation of perceptions others hold of him is not a straight forward reflexive response. The internalization of others' perceptions is generally mediated by a complex and highly personal selection process, which assesses whether respective perceptions will or will not be accepted into the Self-Concept.

> This process takes into account such things as the power which one has over the perceiver, the degree of need for self-knowledge, and the degree to which the perception will allow one to achieve a goal. Thus, one will not automatically adopt the attributes of all others toward oneself but rather will consider these attitudes and at the same time seek to maintain a positive self-esteem (Magill, 1983, p.5).

To conclude, the individual perceives others' attitudes toward himself and selectively decides whether or not to incorporate these attitudes into his Self-Concept. Heiss affirmed empirically, the occurence of such a selective process in Self-Concept formation, and also made it plain

that there is yet no body of research to allow for definitive casual statements regard this process of Self-Concept formation.

To conclude, the growth and development of the Self-Concept and Self-Esteem is summed up in a two-stage organization of the Self.

> 1. The individual's self is constructed simply by organization of the particular attitudes of other individuals toward himself and toward one another in the specific social acts in which he participates, and,
>
> 2. [the Self is] constituted by an organization of the social attitudes of the generalized other, or social group as a whole to which he belongs (Mead 1934, p.158).

A. A Model of Adolescence

Adolescence is indeed the most significant period in human development; especially in terms of the formation and reification of the Self (Adams, 1973; McCandless, 1970; Moreland, 1979). Traditionally it has been documented to be an unsettled period in human growth.

Stanley Hall (1904) referred to adolescence as that period of an individual's life characterized by "Storm and Stress". Anna Freud (1969) noted that in adolescence, human development evolves out of significant disturbances related to mounting instinctual energy in the form of increased sexual and aggressive urges. This cresting of drives and energy is said to result in a significant reevaluation of

self-identity that has been formed and conceptualized throughout childhood. Erikson (1968) gave the period of adolescence a transitional status in the ongoing ego development where roles are generally confused, leading to an identity crisis: a stage when the earlier elements of the Self-Concept must be reorganized in order to produce a coherent and unified self.

At the onset of adolescence, the individual has merged out of Erikson's "Industry" stage and is able to say "I am what I can learn to make work" (Munley, 1977, p.265). The individual, in effectively resolving developmental hurdles or crises in the previous four stages, brings to adolescence an awareness and confidence in cognitive abilities and a sense of personal identity derived almost exclusively from sources generally within the home, and towards puberty, outside the home as well. The questions according to Erikson which are postulated during adolescence include: "Who am I? and What do I want out of life?" (Protinsky et al 1980, p.887). These questions confirm the "marginal man" status the adolescent takes on at this time. The ambiguities that result from the physiological and psychological revolution within the self result in changing perceptions of his Self-Concept, his effective roles in society, and a general lack of clarity, which all help to increase anxiety and hence make an impact on Self-Esteem (Protinsky et al, 1980).

Within the individual, there is an innate stirring for a firm and stable Self-Concept. This stability is based in part on the acquisition of certain "strengths" according to Erikson. These "strengths" are seen to be related to the individual's coping ability, his hopefulness of the future, will, purpose and competence. Of these general social attributes the most prominent in the period of adolescence is "fidelity" which according to Feshbach and Weiner (1982) resembles the Western notion of religious thought and moral maxims.

Social interaction also plays a significant role in helping the individual to establish a stable Self-Concept. The adolescent's Self-Concept stability and clarity are based on accommodating the views of a larger group of signficant persons than before, as well as utilizing the individual's own self-reflexive self-impressions. Indeed, Erik Erikson's (1950) stage theory of Epigenetic Ego Development described the growth of the healthy personality as the result of social interaction: the effective facilitator in the progressive transformation of the person toward maturity.

In Erikson's model, Self-concept and Self-Esteem are formed through a simultaneous process of observation and reflection that takes place in the individual. This process activates all levels of mental function, especially those involved in critical analysis of self and others.

> The individual judges himself in the light of what he perceives to be the way in which others judge him in comparison to themselves and to a typology significant to them, while he judges their way of judging him in the light of how he perceives himself in comparison to them and to types that have become relevant to him (Erikson, 1950, p.22).

Through this critical analysis of self and others, the individual manifests or acquires important coping mechanisms necessary for meeting his existential challenges related to Self-hood. Feshbach and Weiner (1982) indicated that self-insight and control are two important hallmarks or essential attributes of character acquired in adolescence. Among the numerous challenges that the adolescent must face, none is more critical than coming to a realistic and definitive sense of sexual self-hood or identity (Gatchel and Mears, 1982). This self-identity or Self-Concept a person works toward clarifying, influences many aspects of his life including his own career orientation. As Super (1951) indicated: "the choice of an occupation is one of the points in life at which a young person is called upon to state rather explicitly his concept of himself and to say definitely I am this or that kind of person" (Super 1951, p.8).

Social interaction plays a no less fundamental part for the adolescent in acquiring an adequate and effective, reasonable and future-goal oriented vocational Self-

Concept. In adolescence, as well as in every period in an individual's generally irreversible progression through life, the individual engages in a variety of roles which allow him many opportunities to discover "...who he is and what he wants to be. In play and work activities, he tries out his abilities and evaluates them against his accomplishments and the reactions of others" (Super, 1951, p.98). Conceptually, success and satisfaction generate in the individual a self-picture or rather, a general view of self. This self-picture is subject to continual revisions, although the modifications or adjustments made of the self-picture, especially toward the end of adolescence become less radical or dramatic over time.

Career psychologists also see the importance of Self-Concept formation, especially in the adolescent, as it is no less a central concern of his identity (Crites, 1969; Ginzberg, 1956; Osipow, 1983; and Super 1957). Vocational choice, either as a conscious or unconscious act, becomes an important vehicle for attributing self-definition and motivation, and in affecting the Self-Concept. As Osipow (1983) noted Self-Concept implementation is made by means of vocational activities.

Crites (1969) offered the following comment regarding the usefulness of understanding the individual's appreciation of his Self-Concept in terms of his own vocational choices.

> To make a choice, the individual must be aware of himself and be able to relate himself consciously to occupations. This does not mean however, that he is ncessarily aware of the factors or processes which produced his particular self-concept... Vocational choice is the interaction of many individual and environmental factors and that often it is late in the process before the individual realizes what kind of person he is becoming and what kind of occupation he wants to enter (Crites, 1969, p.119).

Ginzberg (1956) underscored this principle when he stated that "...the individual never reaches the ultimate decision at a single moment in time, but through a series of decisions over periods of years" (p.27). One Career Psychologist (Super, 1957) has developed a model that describes the significance of the relationship between Self-Concept formation and vocational choice. In this model adolescence is described in terms of a sequence of vocational behaviors or tasks in two specific stages. The first stage, the "Growth Stage", encompasses the period from birth to approximately fourteen years. "Exploration", the second stage includes the time period from about fifteen to twenty-five years.

The ensuing discussion will present Erikson's adolescent stages, "Identity versus Role Confusion" together with Super's Theory of Vocational development and related research. It will develop an understanding of adolescence based on three substages including early, middle and late

adolescence. These substages are based on the work of Lidz (1968), a major interpreter of Erikson.

Early Adolescence

The concerns of early adolescence are those of coping with radical changes in "size and contours" and with the emergence of irrational emotional impulses heretofore never entertained by the individual. The pubescent adolescent undergoes a reorganization or a reshuffling of his social units or cliques. In these social groups, both the early and late developing (physiologically) persons feel tremendous group pressures and expressions of criticism at the abnormal or atypical rates at which they have matured. This period represents the conclusion of Erikson's Stage 4: Task identification versus Industry. It is at this point that the underlying fear of "...never being any good" (Erikson, 1950, p.125), or identity confusion can begin to occur. According to Rosenberg (1979) the youth of this period tends to conceptualize and evaluate the Self in terms of the social exterior. However, with progressive development in communication arts the young adolescent becomes, in a sense, metamorphosed by increasingly mature thought processes (Mead, 1934; Vygotsky, 1962) that spring from more intense forms of interaction. The result becomes a Self that is conceptualized more and more thoughout adolescence in terms of a psychological interior (Ellis et

al, 1980; Rosenberg, 1979).

Inferiority or a negative Self-Esteem characterizes the young person who has not sufficiently resolved previous psycho-social issues. In such a condition the individual senses estrangement of self from tasks based on a regressing tendency to "...still want mommy more than knowledge" (Erikson, 1950, p.124). It is here, in early adolescence, that the individual has in fact only begun to develop Self-Esteem. Moreover, inferiority may or may not appear depending on how prepared the youth was in meeting the challenges, particularly in the preceeding stage.

Socially, the early adolescent looks for ways to truly enlist in socially acceptable activities and service. Moreover, this substage is characterized by a shift from exclusively homophyle relationships to early heterophyle relationships often described as adolescent crushes. These liaisons are not bounded by elements of maturity, rather, they are motivated by the need to project one's diffused Self-Concept on another with the hope that the reflection brings about clarity. "This is why so much of young love is conversation" (Erikson, 1950, p.125).

It is also during early adolescence that Coopersmith (1967) has identified conceivable sources of Self-Esteem. The individual is beginning to value himself as the "...sum total of all he can call his, not only in the body and his psychic processes, but his clothes and his friends, his

reputation and his works... all these give the same emotions" (Coopersmith, 1967, p.30). According to Coopersmith the development of Self-Esteem is social and is formed on the basis of power, significance, virtue and competence. Power refers to the individual's ability to influence or to control others. Significance is related to the acceptance, attention and affection of others for the individual (recall Mead's reflected appraisals). Virtue, which is reminiscent of fidelity, refers to the person's system and concomitant moral and ethical maxims. And competence connotes the successful performance involved in meeting the demands, usually of academic achievement.

Characteristic of the early adolescent period is occupational identity which Erikson said disturbs most young people. If occupational concerns do not come easily the result is identity confusion and an estrangement takes place between the individual and career goals.

In the "Growth Stage" of vocational development the young adolescent has been engaged throughout his communicating life in social interactions involving imitation and identification with significant others in the home and school environments. Growth stage begins with egocentric and fanciful child's play and crude approximations of roles. It ends with the acquisition of complex role-playing activities and those abilities comprised of realistic approximations both in terms of

sexual differentiation and socio-economic status consciousness (Crites, 1969). Van den Daele (1968) observed that at the conclusion of this stage a final shift away from accommodating or orienting to external socially defined goals and activities takes place. The orientation becomes that of the pursuit of work that represents more self-defined goals. The young adolescent also begins to develop a self-image he tries to project into the future. Although the choices are tentative, he does become sensitized to the extent of the complexity and the differentiation of the adult world of work. This is what Ginzberg (1956) termed (in the final period of Growth) as a time for recognizing one's "capacity" which connotes an awareness of, and the necessity for introducing realistic elements into one's thinking and capacities. There is a new sensitivity to external factors, including; a large variety of potential occupations, the possible returns from the various possible lines of work, and the necessity to prepare and train for them.

If the young adolescent does not successfully negotiate the issues of vocational self-concept development presented, an estrangement occurs. This estrangement, according to Erikson, will produce a negative feeling of Self. The only consolation therefore is a temporary over-identification with pop heroes, idols and clique-centricity.

Middle Adolescence

Middle adolescence is highlighted by increased sexual drives and a trend towards emotional distance from Self. Strong relationships developed outside the family and conflicts with parents occur over issues of independence. However, this becomes confused with the residual child-like inner needs for support. Revolt is often used to describe the rebound behavior adolescents experience in this period. In thrashing out a sense of Self-Concept the adolescent develops and conforms to strong peer group activities. Relationships with the opposite sex show signs of some measure of self-abandon. Much of this love, however, is marked by a self-seeking quality.

The individual, while overcoming parental controls, gains experience and explores what he can accomplish on his own; indirectly he is preparing for his career.

Specifically, the mid adolescent is involved vocationally in a continued or a renewed self-examination of vocational interests and related abilities together with new opportunities for trying out new and potentially satisfying role behaviors. Occupational Exploration takes place primarily in the school setting rather than in the home. New opportunities also arise in the form of more mature leisure activities and also within the auspices of part-time work opportunities. In this period, needs, interests, capacities, aptitudes, values and opportunities all fall

under a progressively more serious and mature self-scrutiny. Tentative choices in career are developed and are then tested and tried out in the available social arenas including discussions with peers, friends, parents and other adults, in educational programs and in "hands on" work opportunities. To summarize, general developmental tasks are faced by adolescents in their middle years. These include:

(1) "...further development of abilities and talents,
(2) choice of high-school or labor market entrance,
(3) choice of high-school curriculum, and
(4) development of independence" (Super, 1957, p.44).

Late Adolescence

Late adolescence is evidenced by what Erikson emphasized as the most crucial stage in developmental psychology. The young person gains his own Self-Concept, acquires a unique and consistent behavior (unlike the erratic life style several years back), and the capacity toward an interdependent relationship with a person of the opposite sex. He has also established tentative vocational goals and such consideration become tempered with reality considerations as the youth assesses his pending entry into the labor market, or into professional training. In the final analysis, attempts are made at this stage to implement

one's vocational Self-Concept (Super, 1957). Such an implimentation by the mature high school student is indicated by his involvement in specific vocational tasks, that again prove the progressive nature of vocational Self-Conceptualization. These tasks include an anticipation or preparation for:

(1) "...choice of college or entry into labor market upon graduation,
(2) choice of college curriculum or a suitable job, and
(3) development of necessary skills on the job" (Super, 1957, p.49).

Ginzberg (1956) affirmed these notions indicating that the individual at about sixteen years of age has become related to a "value orientation" expressed as his attempt to find his place in society. By the seventeenth year he completes his "value" transition in and through the education system in order to determine the next step of approaching either college, or, the world of work.

The content of the adolescent's Self-Concept and Self-Esteem are now composed essentially of abstract qualities, including; "... attitudes, abilities, values, personality traits, habits, activities, preferences or interests, power, and peculiar tendencies" (Rosenberg, 1979, p.15). The adolescent who demonstrates occupational self-direction is likely to find work more psychologically central to his Self-Concept than the person who is not able to exercise

initiative or apply abilities, and self-respect in the central areas of the world or work (Rosenberg, 1979). At the successful completion of adolescence the individual has answered the question: "Who am I?" (Lidz, 1968, p.342).

B. Adolescence, Self-Esteem and Sex Differences

Adolescence and the onset of puberty have traditionally been considered to affect males and females differentially. Many have hypothesized that clear sex differences in Self-Esteem are possible and measureable.

Osborne and Legette (1982) provided a brief review of the literature regarding sex differences in Self-Esteem as reported by adolescents. Their conclusion was that no consistent sex differences were reported. Their own research which utilized the Piers-Harris and Coopersmith scales provided no sex differences in Self-Esteem.

Other studies not included in Osborne and Legette's review arrived at similar conclusions. For example, McGill (1983), using the Tennessee Self-Concept Scale (TSCS) and the Culture Free Self-Esteem Inventory, reported no sex effect when comparing disabled and non-disabled adolescents (N = 44).

Moore and Rosenthal (1980) likewise could report no sex effect in Self-Esteem when they compared Australian adolescents with middle-aged adults (N = 400). Moreover, the results pointed to no generational or age related

effects on the basis of Self-Esteem scores.

In a cross culture by age study, Halpin and Halpin (1981) set out to investigate sex and race differences, if any, between American Indians (N = 97) and white adolescents (N = 128). Based on the Coopersmith results (SEI) they concluded that no differences existed on the basis sex or level of high school education.

Kesler (1978) employed the Self-Regard subscale of the Personal Orientation Inventory (POI) with another special population: Ontario Government ward adolescents. In this case group home (N = 23) and non-group home (N = 36) samples were compared on the basis of self-reported Self-Esteem. The only significant difference was in the main effect of the ward and non-ward status among subjects.

In an age differential cross-sectional study that compared male and female similarities and differences from grade two to grade 12, Drummond, McIntyre and Ryan (1977) reported no sex differences at any level, and especially during adolescence.

Another Australian researcher, Smith (1978) replicated a study he reviewed by Edgar et al 1974. The Edgar study reported only negligible sex differences in twelve and fourteen year old males and females. In Smith's own study some 8000 students aged twelve to seventeen were compared on the basis of sex differences. Smith found sex differences were significant (in favour of males) only for the twelve

year old group and that by the age of seventeen girls were on the average one-half a point below males on the 25 point Coopersmith raw scale score.

Finally, Cohen and Lefkowitz (1977) sampled 126 high school students using both the SEI and the TSCS. They reported significant (but relatively small differences) in favour of females on the TSCS but none on the Coopersmith. In the discussion Cohen and Lefkowitz indicated that their results were consistent with those of Maccoby and Jacklin (1974) in that there was no real effect across the sexes in global Self-Esteem.

Generally a substantial number of authors not discussed find a high degree of similarity across the sexes on the basis of Self-Esteem reports in adolescence (Carlson 1965, Kokenes 1974, Monge 1973, Prawat 1976, Prawat, Grissom and Parish, in press).

Numerous researchers however, have documented that sex differences do in fact exist (Kellerman, Neltzer, Ellenberg, Dash and Rigler, 1980; Simmons and Rosenberg, 1975). Magill (1983), indicated that such research does support the view that prior to the onset of puberty this sex difference in self-evaluation does not exist. Simmons et al. (1979) pointed out that sex differences in favour of males occurs in junior high school based on a decrease in the Self-Esteem reported by females, using the Rosenberg Scale. Simmons previously found (Simmons and Rosenberg, 1975) in a cross-

sectional group of 1988 students (grades 3 to 12), that females had a tendency to become more self-conscious and demonstrate greater self-image instability and lower Self-Esteem around the time of puberty. Although Osborne and Legette (1982), found no main sex differences in Self-Esteem their research did glean other remarkable results. For example, the males they studied tended to score higher in dimensions related to physical appearance but lower on social behavior dimensions than did their female counterparts. These authors suggested that at the heart of these physical-social descrepancies in males and females are sex-related differences in the relative value placed on these aspects of the Self-Concept.

As attractiveness is presumed to be of considerable importance to adolescent persons generally Lerner, Orlos and Knapp (1976) discovered that physical attractibility is a more significant correlate of self-concept for females than for males. This is consistent with the findings of Pomerantz (1979) who noted that while adolescents are involved in reworking their transitional status and identity, that females rely more heavily on social reinforcements for Self-Esteem maintenance than males at this stage.

As has been noted, the determination of sex differences on the basis of Self-Esteem scores has yielded variable results. A growing body of research has concluded that sex

differences do not exist in adolescence. On the other hand, a second body of literature argues a case for such differences.

O'Donnell (1979), for example tested grade 8 (N = 133) and grade 11 (N = 128) students with the Coopersmith child scale and found that males indicated significantly higher self-evaluation score means than females. In studying sex-role perceptions, Hanes, Prowat and Grissom (1979) confirmed the Rosenkrantz et al. (1968) results showing that males and females both value male traits as more socially desirable than female traits. In addition, Hanes et al. (1979) like Bohan (1973) found higher male Self-Esteem mean scores.

In terms of male-female Self-Esteem differences at puberty, Jocquish and Savin-Williams (1981) and Simmons et al. (1979) found that males are more positive in self-evaluation than females at this time. One additional rationale for differences, over and above what has been mentioned, is that males place less emphasis on social interactions to validate their self-concepts, and females tend to seek out more validation in interaction (Burns, 1979, Dusek and Flaherty 1981); that is , boys are less concerned or aware of others' opinions of them (O'Donnell, 1979).

In summary, although there is conflict in the literature, the majority of current studies cited and reviewed tend to support the view that male adolescents

regard themselves more favourably than females during this period of psychological and physiological development. This may be the result of a recognition at puberty of this society's value placed on masculine traits (Magill, 1983). However, another issue in the literature that requires review is the question of the crisis versus developmental adjustment models evidenced in Self-Esteem research.

C. Adolescence and Stability of Self-Esteem

There has yet to be a consensus reached in regard to whether Self-Esteem in adolescence is subject to sex differences, and also whether this personality trait is given to high instability of whether it is a rather immutable trait of the self-system throughout development.

Despite theorizing regarding a major Self-Concept overhaul in adolescence in regard to: a) physiological concerns for "size and contours" (Lidz, 1968); b) social and personal adjustments in sex-role identity (Erikson, 1950); c) sexual and aggressive drive containment (Freud, 1969); or d) dependence versus independence in emotional growth (Travis, 1976), there is mounting evidence to the contrary. Researchers have identified some specific areas of instability, however, the findings do not support a general adolescent crisis model.

For example, Coopersmith (1967) concluded that Self-Esteem is in fact relatively stable throughout the period of

adolescence. He along with others maintains that on an individual and specific situation basis, personal evaluation and self-definition undergo very little in the way of shifts or fluctuations (Bachman and O'Malley, 1974; Burns, 1979; Dusek and Flaherty, 1981; Ellis, Gehrman and Katzenmeyer, 1980; and Larned and Muller, 1979).

Huckabay and Arntd (1979) in their literature review arrive at the conclusion that Self-Concept and the mediating Self-Esteem traits, together strive toward a stable state of organization and internal consistency. This stability or consistency can be altered through psychotherapy or counselling, however, the Self-Concept of the child is suggested to be more maleable than that of the adult.

Osipow (1983) confirmed this assertion suggesting that effective intervention in shaping the Self-Concept, is best accomplished during early adolescence since the Self-Concept and Self-Esteem "grows more stable during later adolescence and maturity" (Osipow, 1983, p.181).

Watkins and Astilla (1979) in an investigation of Filipino female adolescents (N = 193), compared the stability of Coopersmith scores over a nine month period. The test-retest reliability of the Coopersmith scale over this period was r = .61: not a particularly high correlation. Yet these researchers concluded that there was no remarkable instability for this group of subjects.

Osborne and Legette (1982) compared grade 7 (N = 129), grade 9 (N = 119) and grade 11 (N = 126) students in a cross-sectional investigation employing the Coopersmith and Piers-Harris scales and could not report any inter-grade differences based on comparisons of means and variance terms of the scales over the three grade levels.

Dusek and Flaherty (1981) designed a 3-year longitudinal study to measure Self-Esteem in students of grades five to twelve. They too noted over the three year period that based on factor analysis of this construct that, no sign of Self-Esteem instability or discontinuity was established on the basis of their comparisons. These researchers as well as current ones no longer view adolescence as a period of abrupt Self-Concept changes precipitated by personal or social adjustment. Although this evidence suggests that changes and anxieties do exist, the impact of such changes on Self-Esteem are relegated to less central levels of personal stability (Protinsky and Farrier, 1980). Even though some sources of variability have been identified (Bynner 1981; Dusek and Flaherty 1981; and Ellis et al. 1980), at the personal level during the onset of adolescence, for the most part, Self-Esteem remains stable and undergoes less in the way of radical revisions than suggested earlier.

D. Vocational Research and Adolescence

The focus of the discussion is directed to general vocational research in adolescents. An example of this theme is a study conducted by O'Hara and Tiedeman (1959). They were interested in investigating the adolescent's ability to estimate, in an accurate fashion, his interests, aptitudes and work values. O'Hara and Tiedeman found that for most adolescent males interest clarification was essentially reached by grade 10. Work values on the other hand continued to be formulated through to grade 12. Aptitudes appeared to lack a clear and accurate self-estimate, even by the culmination of the high school period.

In a similar study of self-perceptions, Burgoyne (1979) tested Holland's (1973) and Bordin's (1943) hypothesis regarding consistency of self-perception and vocational choice. His results supported the claim that factors which effect Self-Concept formation are similar to those involved in formulating personal vocational stereotypes.

Moving from consistency to self-descriptions, Hollander (1972) compared the ability of grade ten students to identify their own personality traits and relate these with general occupational stereotypes. In this, Hollander sought to confirm that a positive correlation between self-descriptions and occupational stereotypes did exist. The results supported moreover, this view. Occupational stereotypes, it was found, tend to be furnished by

discussions with others, by printed matter, and from television and other non media sources.

Madaus and O'Hara (1967) noted that the high school years are an important pre-vocational period of development. To better describe this stage they designed a cross-sectional study to compare the extent of crystallized career preferences and their similarity between grades 9 and 12. Using only males (N = 979), the results of the Kuder Preference Form established that there was no significant difference between, for example, boys choosing law in grade 9 and grade 12. This suggested to the researchers that a degree of career pattern stability exists and if developed by grade 9 can conceivably be maintained throughout the high-school experience.

Noeth, Roth and Prediger (1975) have been active in several studies related to vocational psychological activity in the high school years. In this study, a sample of 30,000 grade 8, 9 and 11 students were surveyed to determine when they considered career planning ought to begin. The grade 11 students indicated that career planning must begin before the final year of high-school (85%). Also, many (61%) believed that the earlier a vocational choice could be realistically made, the better. The majority of this sub-sample stated that they actively discussed their career plans with parents, relatives or guardians (90%). Based on the results these authors also concluded that many students

are actually forced to make career decisions often with only a limited knowledge of the work world.

Jepsen (1975) found that the only major distinction between grade 9 and grade 12 students was that by grade 12, students tend to be more progressive and elaborate in rationale pertaining to and supporting previous career decisions. As in the case of Ansell and Hansen (1971), Crites (1975) and Gribbons and Lohnes (1968), Noeth and Prediger (1978) reported a noticeable shift toward greater career planning readiness throughout the adolescent years, culminating in a more active, more knowledgeable and a better focused range of career development behaviors.

Recently, Noeth and Jepsen (1981) carried out a follow-up on a group of high school students who were asked to predict their chosen field of entry in the work world. These expressed aspirations were then compared with a response indicating level of certainty three years later. The authors concluded that males were no different from females in predicting future vocational activity and that "... the expressed vocational choices of the eleventh graders' clearly exceeded chance as predictors of the job clusters actually entered" (p.25).

E. Self-Information and Self-Esteem

In the final section, literature related to self-information and Self-Esteem is reviewed. The first example

of such research includes the work of McMillan (1977), who demonstrated that self-information gleaned from a variety of vocationally related test instruments elevated the Self-Esteem of female adolescents significantly. In this study, McMillan utilized a "personalized career guidance program" based on Super's model of Occupational Psychology. This included the GATB, the Kuder Interest Test, Work Values Inventory, and an author devised Habits and Attitudes survey. Only the female experimental subjects who received this program: The Sankey Saskatchewan Career Exploration Project, improved significantly on their Self-Esteem (TSCS) scores.

Otte and Sharpe (1979) were also interested in the effects of career information on Self-Esteem. In this study the treatment was a career exploration program devised to assist seventh grade (N = 28), inner-city youth in a large metropolitan setting. These young adolescents were exposed to a semester course on career exploration which included field trips to work sites and group discussions back in the classroom. The personality variables to be manipulated via the "treatment" program included: the adolescent's sense of personal worth, achievement, motivation and occupational knowledge. Self-Esteem pre and post assessments were made on the basis of the Coopersmith scale and for the other dimensions indicated the authors devised the PECE - Self-Knowledge Test. This experimental program produced among

other things a group of adolescents from the group guidance program with significantly better self-reports on the dimensions at hand. This finding was similar to McMillan's (1977) results, except that males and females both appeared to benefit from the career program.

Huckabay and Arntd (1979) investigated the impact of the acquisition of self-knowledge on female nursing students (N = 69) on Self-Esteem. In this case, the treatment included a self-mastery program in a nursing course which provided opportunities for feedback on students' acquisition of knowledge and performance with curriculum material. Using the Q-Sort (Dymond, 1954), these researchers attempted to establish that Self-Concept (and Self-Esteem) is a stable yet fluid or accommodating organization (e.g., Coombs and Snygg, 1959; Raimy, 1943). They operated on the assumption that Self-Concept and Self-Esteem develop based on the reflected positive and negative appraisals of others in social interaction. The results suggested that self-information, perceived by the subject as important to the subject in that setting, offered in a positive manner, actually produced positive and significant changes in Self-Concept evaluation following the program.

Hills and Williams (1965) also employed the Q-Sort to test the impact of the Strong-Vocational Interest Blank (SVIB), the Differential Aptitude Test (DAT) and the School and College Abilities Test (SCAT) on undergraduate males and

females. In effect these researchers were attempting to confirm Williams' (1962) earlier findings. In this previous study Williams had demonstrated that overall adjustment in personal and vocational areas of personality could be increased in brief educational-vocational counselling. A significant increase in Self-Esteem scores was observed. Williams hypothesized that vocational clients attach great importance to vocationally relevant information in the hope that test scores will provide a ready solution to vocational problems. The results of the replication instead supported the null hypothesis that the receipt of such test information is not a principle factor in eliciting signficiant changes in Self-Esteem. Furthermore, it did not matter whether the results were presented individually with written summaries of the results in a counselling setting, or without the counselling component. In their discussion these researchers posited whether a change toward a positive self-perception was not associated with brief educational-vocational counselling, but rather with extended personal-adjustment psychotherapy instead.

Although the above research tends to be similar in hypothesis and intent, there are however numerous difficulties and differences which need to be addressed. In the case of the Hills and Williams (1965) and the McMillan (1977) studies, the self information presented to subjects was not simply one type of "test" result, but represented

feedback across numerous personality dimensions of lesser or greater importance to the subject. Second, across the research concerned with vocational information and its relationship to Self-Esteem, the results are not unanimous. The vocational self-information treatments differ in terms of kinds of information, the duration of the programs or treatments and the exact procedures for delivery of results to the subjects. These methodological discrepancies make it difficult to compare results and thus indicate the need for controlled studies to assess the impact of the numerous forms of career guidance information on the recipient's personality or Self-Concept.

In the present study, it is hypothesized that adolescents who are engaged in important Self-Concept projections into the career world will attach great importance to the results of a brief standardized presentation of relevant personal and vocational information. This hypothesis is based on the Coombs and Snygg (1959) and Raimey (1943) assertion that the Self-Concept is responsive to relevant self-information presented in a social interactive format.

III. Methods

A. The Independent Variable

The Independent Variable was the individual subject profile results of the SCII presented in the group interpretation format (See Appendix). In addition, to provide greater relevancy of the vocational material for the experimental subjects, PsiCan Consulting Ltd. of Edmonton, Alberta was used to provide the Alberta Regional Interest-Aptitude Career Guide as an addendum to the standard SCII profile.

B. The Dependent Variable

The Dependent Variable was Self-Esteem, the self-reflexive self-evaluation of the Self-Concept a person holds about himself. The instruments employed to quantify this variable were two published, standardized Self-Esteem Scales: the Coopersmith Self-Esteem Inventory (SEI, Coopersmith, 1982), and the Culture-Free Self-Esteem Inventory (Battle, 1981).

1. The Coopersmith SEI Adult form was used:

> ...with persons aged sixteen and above. It consisted of twenty-five items adopted from the School Short Form. The correlation of total scores in the School Short Form and the Adult Form exceeded r = .80 for three samples

of high school and college students (N = 647) (Coopersmith, 1981, p.2).

The adoption of the Adult Form from the School Short Form is on the basis of language and situation referred to in the Scale. That is, certain "items were modified to make them more meaningful to persons whose likes are not as closely bound to parents and school as are children's" (Coopersmith, 1981, p.6).

Drummond, McIntyre and Ryan (1977) indicated that the shortened version of the SEI with 25 items on the General Self-Esteem Scale offers as high a stability as the long version.

2. The Culture Free Self-Esteem Inventory for Adults contains 40 items distributed across the following subscale:

1. General Self-Esteem items
2. Social Self-Esteem items
3. Personal Self-Esteem items
4. Lie items (items which can indicate defensiveness)

The Lie Scale items are not included in results as this subscale has not been sufficiently researched and normed. Therefore, the Culture Free scale is comprised of 32 items distributed across the three Self-Esteem subscales. An aggregate score is derived by summing the results of the three subscales, giving a 32 item Self-Esteem total score.

Generally known as the Canadian Self-Esteem Inventory, the Culture-Free Self-Esteem Inventory has been identified

by Coopersmith (1981) as an inventory designed to approximate the Coopersmith SEI. Coopersmith therefore holds the view that the Culture Free SEI may be considered an alternate form of the SEI, and vice versa.

C. Research Hypotheses.

The Self-Information presented to the treatment subject group in the profile format of the SCII reflects vocationally relevant components of the subject's Self-Concept. The profile produces a clarified or confirmed image of the vocational Self-Concept to the subject which in turn will result in or promote a more favorable attitude toward the Self, as indicated by elevated or increased General Self-Esteem levels.

1. There will be a significant increase in Self-Esteem in the experimental group between pre-test to post-test measures.
2. The male subjects at the pre-test measurement will demonstrate significantly greater Self-Esteem scores than the females across the control and experimental groups.
3. There will be a significant positive correlation between the Coopersmith Self-Esteem Inventory and the total scores on the Culture Free Self-Esteem Inventory.

D. Sample

The study was conducted at the East Glen Composite High School in Edmonton, Alberta. This institution was selected by advisors at the Edmonton Public School Board as representative of the general socio-economic and culture factors in the Edmonton demographic area.

The subjects included 58 recruited grade 11 academic stream students. Data were collected during class times arranged with the Principal, the Guidance Counsellor and the respective teachers of English 30 level classes. All subjects participating in the study met the following criteria:

1. fluent in English
2. in grade 11
3. 16 years of age or older
4. having no prior counselling experience with the Strong Campbell or with Holland designed vocational test instruments and materials.

E. Design

A two-way repeated measure design was used for Hypothesis 1 of the study. Each subject in the experimental group was pre-tested with the two Self-Esteem inventories. At this time (O_1), each subject also completed the Strong Campbell Interest Inventory. Fourteen days following the pre-test, the experimental group subjects received the

treatment in the form of a group interpretation of the Strong-Campbell II, based on returned subject profiles. On the seventeenth day of the experiment (O_2) the subjects were post-tested again using the two Self-Esteem inventories. The control group subjects were likewise tested with the Self-Esteem inventories to coincide with the pre-test and post-test occasions.

For Hypothesis 2, a one-way comparison was used to investigate any evidence of sex differences across the experimental and control groups using the Self-Esteem inventories at the pre-test (O_1) of the experiment.

The third hypothesis was investigated using Pearson's product-moment correlation on all full-scale and subscale totals of the Self-Esteem Inventories.

F. Procedure

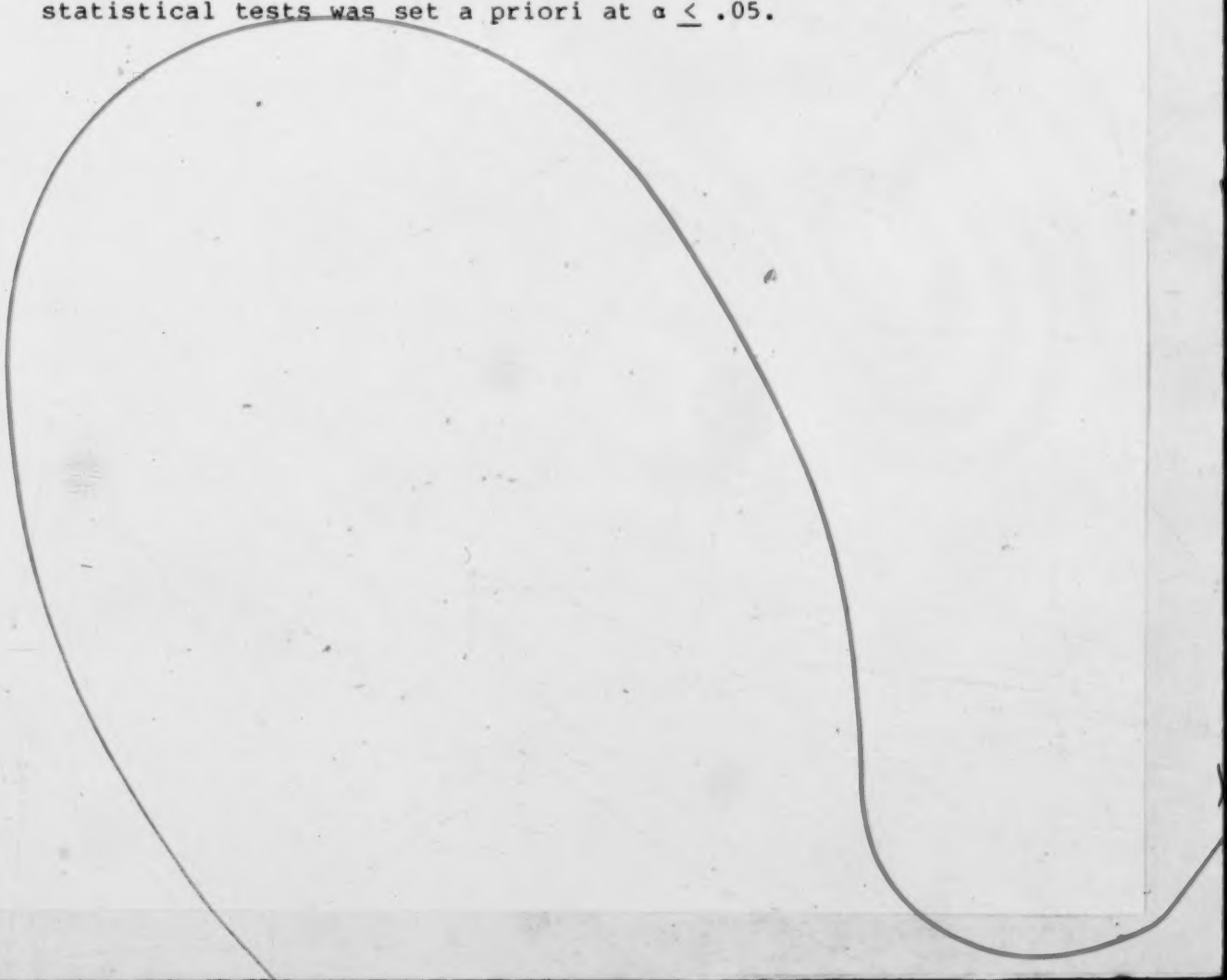
The experimental treatment group was pretested O_1 using the two Self-Esteem measures of the dependent variable. This was followed immediately by the administration of the Strong Campbell Interest Inventory. The total duration of time was 80 minutes which included 15 minutes for completing the self report Self-Esteem scales and 65 minutes for filling out the Interest Inventory computer response sheets. The "treatment" X, which took place 14 days from O_1 included the return of personal SCII results and an objective group interpretation and discussion of the SCII

results. The treatment was completed in approximately 80 minutes and was based on a standardized group interpretation format published by Dr. David Campbell: Center for Creative Leadership, of Greensboro, North Carolina. The group interpretation format of the results was chosen for several reasons. One, was to safeguard against experimenter halo or biasing effects that may arise in individual interpretation sessions. Second, the Creative Leadership material was chosen for its group orientation to interpretation and its specificity to the SCII. And thirdly, group interpretation methods of delivering vocationally oriented personal material have been found to be the most effective and economical method (Folds and Gazda, 1966; Rubenstein, 1978; Wearne and Powell, 1976; and Westbrook, 1974). The Experimental group subjects were then post-tested, O_2, with the two measures of Self-Esteem on the third day following the treatment, e.g., the 17th day of the research). The delay in post-treatment measurement was designed to facilitate maximum opportunities for the adolescents to discuss the vocational and personal material presented in the treatment session, with parents, relatives, peers and other significant persons. Such behavior on the part of adolescents regarding career concerns have been indicated as a general response behavior in crystallizing general and vocational Self-Concept (Elliot, 1982; Heiss, 1981; and Rosenberg, 1979).

The Control group subjects were tested on the dependent variable at intervals O_1 and O_2 that corresponded precisely with the procedure outlined regarding the Experimental treatment group.

G. Data Analysis

To assess Hypothesis 1, the data was analyzed by a Two-Way Analysis of Variance with repeated measures. Hypothesis 2 was analyzed by a One-Way Analysis of Variance with repeated measures. And for Hypothesis 3, the data was addressed using Pearson's product-moment correlation coefficient (r). The level of significance for all statistical tests was set a priori at $\alpha \leq .05$.



IV. Results

The results presented in this chapter are divided into three sections. Sample characteristics are presented in the first section and the outcome of the group, six means and correlations are presented in the following sections.

A. Sample Characteristics

The control group consisted of 31 students (10 males, 21 females) and the experimental group consisted of 27 students (5 males, 22 females). The control group ranged in age from 16 to 19 years (mean = 16.4, S.D. = 0.8). The experimental group ranged in age from 16 to 17 years (mean = 16.2, S.D. = 0.4). Table 1 contains a summary of the sample statistics for each group including: age, gender, Coopersmith SEI scores, Culture Free SEI Scale totals, General, Social and Personal subscale scores. Table 2 contains a summary of pre-test sample means of Self-Esteem means for total scales and subscale scores for male and female groups.

Table 1. Summary of pre-test and post-test sample statistics of self-esteem scale and subscale scores for control (N = 31) and experimental groups (N = 27).

Self-Esteem Inventory	Pre-Test Means (S.D.) Control	Pre-Test Means (S.D.) Experimental	Post-Test Means (S.D.) Control	Post-Test Means (S.D.) Experimental
Coopersmith	72.1 (18.4)	72.9 (18.7)	75.5 (19.1)	75.2 (18.2)
Total	25.0 (5.1)	23.9 (5.0)	25.5 (4.9)	24.1 (5.6)
General	12.7 (2.6)	12.6 (2.8)	13.0 (2.9)	12.7 (3.0)
Social	7.2 (1.0)	7.1 (1.1)	7.4 (1.0)	6.7 (2.4)
Personal	5.2 (2.4)	4.3 (2.6)	5.0 (2.4)	4.7 (2.5)

NOTE: The Culture Free Self-Esteem Inventory produces four scores: Total score of subscales (Total); General subscale (General); Social subscale (Social); Personal subscale (Personal).

Table 2. Summary of pre-test sample means (S.D.) of self-esteem scales and subscales for male and female groups (N = 58).

Groups	Coopersmith	Total	General	Social	Personal
Males	71.5	25.5	12.9	6.5	6.1
	(23.8)	(6.6)	(3.5)	(1.5)	(2.7)
Females	72.8	25.7	12.5	7.3	4.3
	(16.4)	(6.1)	(2.4)	(0.7)	(2.3)

NOTE: The Culture Free Self-Esteem Inventory produces four scores: Total score of subscales (Total); General subscale (General); Social subscale (Social); Personal subscale (Personal).

B. Statistical Analysis of Research Hypothesis

Hypothesis 1.

There will be a significant increase in Self-Esteem in the experimental group between pre-test and post-test measures.

To test Hypothesis 1, a Two Factor Analysis of Variance with Repeated Measures was performed and the results are presented in Tables 3 through 7.

Conclusion: As can be seen from Tables 3 and 4, the results of Coopersmith and the Culture Free Total scores did not support Hypothesis 1. There was not a significant increase in Self-Esteem in the experimental group between pre-test and post-test. Two factor analysis of variance also failed to demonstrate a significant increase in the Culture Free subscale results for the General Self and Personal Self subscales (Tables 5 and 7). The Analysis of Variance did yield a significant interaction effect for the Culture Free Social Self subscale (Table 6 and Figure 1).

Table 3. Summary of two factor analysis of variance: Coopersmith self-esteem inventory.

Source	SS	DF	MS	F	P
Group					
Main Effect	2.480	1	2.480	0.004	0.950
Error	35531.625	56	634.493		
Pre and Post Test					
Main Effect	231.460	1	231.460	3.932	0.052
Error	3542.000	58			
Group X Pre- and					
Post-Test	6.990	1	6.990	0.119	0.731
Error	3296.438	56	58.865		

Table 4. Summary of two factor analysis of variance: Culture free self-esteem inventory totals.

Source	SS	DF	MS	F	P
Group					
Main Effect	42.067	1	42.067	0.838	0.364
Error	2810.375	56	50.185		
Pre and Post Test					
Main Effect	2.924	1	2.924	1.012	0.319
Group X Pre and Post Test	0.514	1	0.514	0.178	0.675
Error	161.875	56	2.891		

Table 5. Summary of two factor analysis of variance: Culture free self-esteem inventory general self subscale.

Source	SS	DF	MS	F	P
Group					
Main Effect	1.043	1	1.043	0.073	0.788
Error	800.207	56	14.289		
Pre and Post Test					
Main Effect	1.860	1	0.141	1.295	0.260
Error	82.50	58	1.860		
Group X Pre and					
Post Test	0.141	1	1.436	0.098	0.755
Error	80.426	56			

Table 6. Summary of two factor analysis of variance: Culture free self-esteem inventory social self subscale.

Source	SS	DF	MS	F	P
Group					
Main Effect	4.652	1	4.652	2.169	0.146
Subjects					
within Groups	120.109	56	2.145		
Pre and Post Test					
Main Effect	0.093	1	0.093	0.248	0.620
Error	24.000	58			
Group X Pre					
and Post Test	2.849	1	2.849	7.555	0.008*
Error	21.121	56	0.377		

*Significant at $p < .05$.

Table 7. Summary of two factor analysis of variance: Culture free self-esteem inventory personal self-esteem subscale.

Source	SS	DF	MS	F	P
Group					
Main Effect	10.928	1	10.928	0.959	0.332
Subjects					
within Groups	637.901	56	11.391		
Pre and Post Test					
Main Effect	0.421	1	0.421	0.446	0.507
Error	55.000	58			
Groups X Pre					
and Post Test	1.798	1	1.798	1.903	0.173
Error	52.890	56	0.944		

Hypothesis 2

The male subjects at the pre-test measurement will demonstrate significantly greater Self-Esteem scores than the females across the control and experimental groups.

To test Hypothesis 2, a one-way analysis of variance was used to determine significant sex differences. The results are presented in Table 8.

Conclusion: The results of the Coopersmith, Culture Free Total and Culture Free General Self scales demonstrated no significant difference between males and females across groups at the pre-test measure. Therefore, Hypothesis 2 was not supported as there was no "sex effect" in favor of males on the above scales. However, significant "sex effects" were observed on two Culture Free subscales. A significant difference in scores in favor of females was indicated on the Social Self subscale contained in Table 3 (males (N = 15): mean = 6.467, S.D. = 1.506; females (N = 43): mean = 7.349, S.D. = 0.720). On the Personal Self subscale the statistics indicated that the males were significantly higher than the females (males: mean = 6.133, S.D. = 2.722; females: mean = 4.279, S.D. 2.28).

Table 8. Summary of one-way analysis of variance: Coopersmith and culture free self-esteem inventories and sex by group.

	Source	SS	DF	MS	F	P
Coopersmith	Groups	0.209	1	20.85	0.06	0.806
	Error	0.193	56	344.24		
	Total	0.193				
Culture Free:						
Total	Groups	18.902	1	18.902	0.749	0.391
	Error	1413.598	56	25.243		
General	Groups	0.212	1	1.22	0.17	0.684
	Error	0.406	56	7.26		
	Total	0.408				
Social	Groups	0.865	1	8.65	9.06	0.004*
	Error	0.535	56	0.96		
	Total	0.622				
Personal	Groups	0.382	1	38.23	6.64	0.013*
	Error	0.322	56	5.76		
	Total	0.361				

*$p < .05$

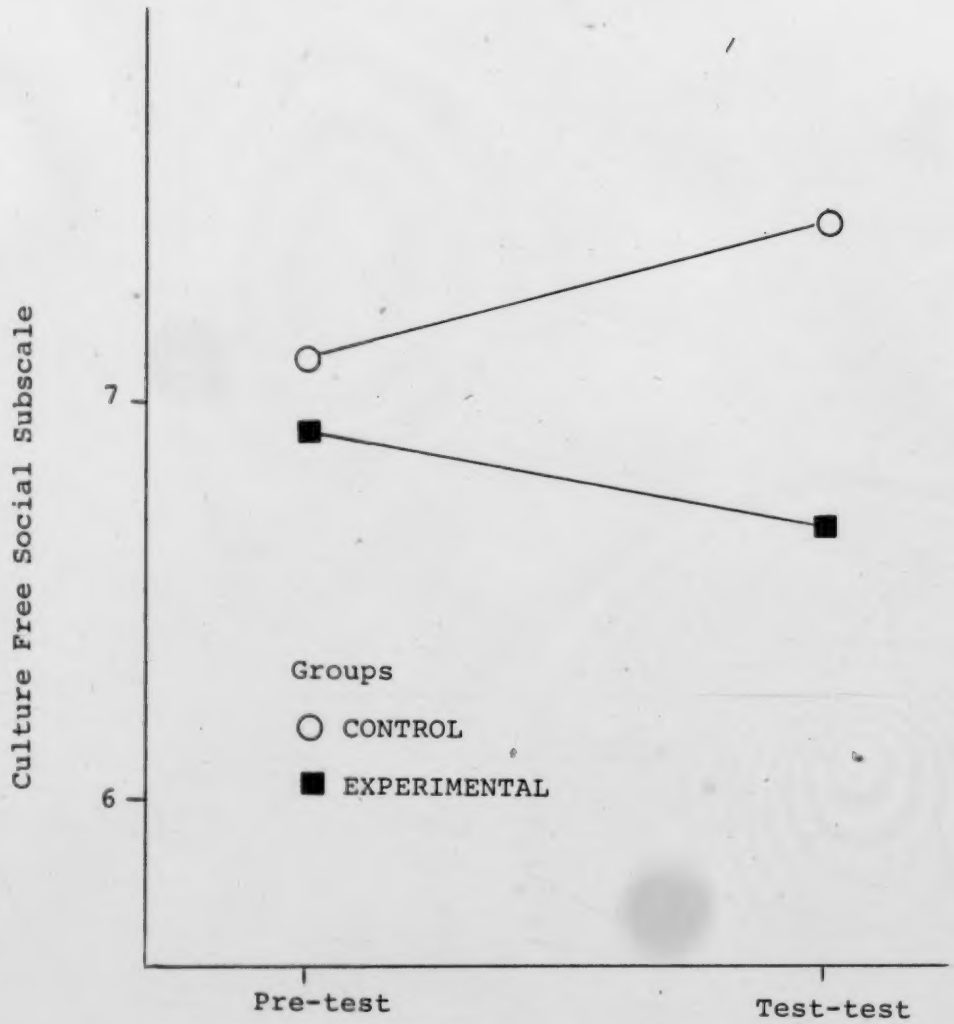


Figure 1. Group x repeated measures interaction effect on the culture free social subscale.

Hypothesis 3

There will be a significant and positive correlation between the Coopersmith Self-Esteem Inventory and the total score on the Culture Free Self-Esteem Inventory.

To test Hypothesis 3, Pearson's product moment correlation was performed on pre-test scale and subscale measures of Self-Esteem. The results are presented in Table 9.

Conclusion: The Pearson correlational matrix of pre-test Self-Esteem total scores on the Coopersmith and Culture Free Total were positive and significant. This result supports the Hypothesis indicating that the correlation accounts for 65.84% of the variance between the two scales. In addition the correlation of the Social and Personal subscales for practical purposes was zero indicating no significant relationship between these subscales. Otherwise, the range of correlations fall between $r = 0.36$ and $r = 0.91$ accounting for between 13% to 82% of the scale variances.

Table 9. Pearson's correlational matrix of pre-test measures of self-esteem.

	Coopersmith	Total	General	Social
Total	0.81 ($P < 0.05$)			
General	0.78 ($P < 0.05$)	0.91 ($P < 0.05$)		
Social	0.44 ($P < 0.05$)	0.45 ($P < 0.05$)	0.36 ($P < 0.05$)	
Personal	0.60 ($P < 0.05$)	0.84 ($P < 0.05$)	0.59 ($P < 0.05$)	0.11* ($P = 0.217$)

*A correlation of $r = .11$, $P = 0.217$ is equivalent to $r = 0.00$.

V. Discussion, Recommendations and Conclusions

In this section, the results of the study will be discussed in three parts. First, the discussion will evaluate the results of the inventories' total scale scores and their relationships to the hypotheses. Second, subscale results will be discussed in the light of the hypotheses. Finally, the implications for Career Counselling will be outlined followed by recommendations for future research.

A. Discussion

As the analyzed data indicated, Hypothesis 1 regarding the efficacy of the vocational interest treatment was not supported. That is, adolescents from the experimental group who received brief vocational counselling via the group interpretation and presentation of the SCII did not demonstrate a significant increase in post-test measures of the two Self-Esteem inventories. Nor was the experimental group statistically different from the control group on the overall scale measures. This result was consistent with Hills and Williams' (1965) findings that a positive change in Self-Esteem cannot be produced in adolescent individuals on the basis of a "one-time" vocational counselling encounter, regardless of how cogent, accurate or satisfying

the resulting test information may be to the clients.

Johnson (1953), referring to the various sources and types of self-information available in Career Counselling and their relationship to personality change, concluded that the most effective sources for improving self-knowledge were the more objective factors such as aptitudes and intelligence scores over more subjective information including interests or personality characteristics.

Folds and Gazda (1966) considered the presentation to clients of scholastic aptitude scores or results of the Edwards Personal Preference Scale alone as insufficient in providing a significant import on the individual for changing Self-Concept or Self-Esteem. Like Hills and Williams (1965), these researchers concluded that any change effected in the client would most likely be the result of the specific nature of the interpersonal relationship between the client and the counsellor rather than on the basis of mere information exchange. Support for these findings may also be drawn from the literature in terms of the stability of Self-Esteem. Despite theoretical arguments suggesting that the adolescent experiences a dramatic Self-Concept redefinition and a highly labile Self-Esteem (Erikson, 1950; Freud, 1969; Lidz, 1968; Travis, 1976), current research challenges such a view (Bachman and O'Malley, 1974; Burns, 1979; Dusek-Flaherty, 1981; Ellis et al., 1980; Larned and Mueller, 1979; Osborne and Legette,

1982; Watkins and Astilla, 1979). Coopersmith (1967) found Self-Esteem to be stable during adolescence. Huckabay and Arntd (1979) argued that personal traits such as Self-Esteem strive toward stability and consistency within the person. Moreover, these researchers concluded that Self-Esteem can be altered only through long term interactions and the efficacy of Self-Esteem change meets with diminished success the further the individual matures past childhood.

Festinger and Bramel (1962) maintained that a person confronted with self-information will first evaluate the importance of the person or agency providing the information. If the information is contrary to the individual's beliefs the degree of dissonance or anxiety generated will be related to the relative importance of the source. Likewise, with consonant information, the individual will respond with little concern if he judges the disseminator to be of little importance and vice versa. Therefore, with this in mind, and on the basis of the "one-time" presentation of self-information provided to the subjects of this study, it was difficult to deduce the relative importance the subjects attributed to the Strong Campbell profiles. Moreover, it was not possible to determine the degree of importance the subjects affixed to the researcher who presented this information.

Yet another argument for support of the general findings arises from the Vocational Psychology literature.

From that research there was a suggestion that for many grade eleven adolescents the results of an interest inventory would likely hold few surprises or radically new information; especially in terms of expected general categories in occupational choice (Madaus and O'Hara, 1967; O'Hara and Tiedeman, 1959). That is, a degree of career pattern stability has already been discerned by grade nine adolescents. The crystallization of occupational preferences continues then with little undo fluctuation throughout the remaining years in the high school pre-vocational period. In the current study the self-information provided to the experimental group may have only confirmed career choices which many of the subjects had previously made ergo there was no change in the subjects' evaluation.

The data failed to support the presence of sex differences in self-reported Self-Esteem across the pre-test groups. This finding was consistent with some of the research reviewed earlier (Carlson, 1965; Cohen and Lefkowitz, 1977; Drummond et al. 1977; Edgar et al. 1974; Halpin and Halpin, 1981; Kesler, 1978; Kokenas, 1974; Maccoby and Jacklin, 1974; Magill, 1983; Monge, 1973; Moore and Rosenthal, 1980; Osborne and Legette, 1982; Smith, 1978), but inconsistent with the theoretical literature (Lidz, 1968) indicating that adolescent females exhibit a decrease in Self-Esteem.

The results of Hypothesis 1 would suggest a notion of Self-Esteem stability (Bachman and O'Malley, 1974; Burns, 1974; Coopersmith, 1967; Dusek, Flaherty, 1981; Ellis, et al., 1980; Larned and Mueller, 1979).

The discussion is now directed to addressing the statistical results which demonstrated significant differences among the Culture-Free SEI subscales. Referring to Table 7 and Figure 1, the two-way analysis of Variance (ANOVA) demonstrated an interaction effect between groups and repeated measures for the Social subscale. The "effect" was an ordinal interaction as there was an increase in the difference between group means following the treatment on the post-test. Initially, the mean differences between the groups on the 8 point subscale was 0.067 points at pre-test. This increased to 0.715 points on the post-test. The spread of the post-test means was most likely due to an overall increase in control pre- and post-test means by way of a practice effect. The experimental group, over the repeated measures, dropped to a level which helped produce significantly different post-test means: ANOVA ($F = 19.6625$, df 1/56, $p < .05$). This result may have been due to measurement error, or in fact it indicated a "treatment effect of the Strong Campbell on Social Self-Esteem". If the latter was the case, only a slight decrease in Social Self-Esteem occurred shifting the group mean from the "High" to "Intermediate" level as indicated in the Inventory test

manual (Battle, 1981).

Other statistically significant findings to be discussed relate to sex differences as determined by the Social and Personal subscales (Table 6 and 7). One-way analysis of variance on the Social subscale initially indicated that females outranked males on Social Self-Esteem. On the Personal subscale, just the opposite was found.

Regarding the Social subscale results, closer analysis revealed that the variance terms violated the property of homoscedascity (Chi-square = 13.250, $P < 0.05$). A second one-way ANOVA was executed on the sample groups using equal numbers of males and females. This was done by randomly selecting fifteen females from the total population ($N = 43$) of female subjects. Subsequent results confirmed the heterogeneity of the bivariate distribution of the Social subscale (Chi-squre = 4.468, $P = 0.035$; ANOVA ($F = 2.25$, $df = 1/28$, $P > 0.05$)). In conclusion, the distribution of male and female scores on the Social subscale were unequal making comparisons and conclusions regarding significant sex differences inappropriate.

When addressing the significant differences found on the Personal subscale the same argument and analysis could not be applied. In this case (Table 7), with homogeneity of variance terms (e.g., male: $s^2 = 2.722$; females: $s^2 = 2.28$; Chi-square = 0.674, $P = 0.412$), the males demonstrated

higher Personal Self-Esteem scores. On the eight point subscale the mean for males of 6.133 represented a percentile rank = 75% whereas the females, with a mean of 4.279, represented a percentile rank of 50%.

One way to explain this difference involved an item analysis of the Personal subscale (Refer to Appendix III). Erikson (1968) indicated that females tend to be more responsive than males to interpersonal and social influences as profound antecedents to Self-Esteem. The difference over males in social perception could in fact be demonstrated in a sex related response set to this subscale especially following the "self-information" treatment. An examination of the scale items revealed questions which suggested social reference in establishing a subject's response: that is, items 15, 22 and 36. From another perspective many items suggested physical attractiveness and personality dimensions, which Erikson noted are deeply embedded in the female psyche. At issue is the fact that most items were phrased in a negative interrogative style. Therefore, if females were disposed toward the sensitivities described, the wording of the scale items may in fact have unsettled female subjects more than males.

A further position regarding this result was to suggest that the males were higher on Personal Self-Esteem than the females thus affirming Hypothesis 2. Theoretical literature (Lidz, 1968) suggested that females exhibit a decrease in

Self-Esteem in response to an acquired Self-Concept ambivalence which begins at puberty. Due to physiological changes in maturation and a new awareness and sensitivity to perceptions of cultural male trait dominance in society, the female sustains a loss of self worth while she reorganizes her Self-Concept.

Moreover, Battle (1982, 1980, 1978), author of the Culture Free Inventory has research to support the hypothesis that Self-Esteem is highly correlated with depression. In one study (Battle, 1980), 26 male and female students aged 15 to 18 years, were tested with the Culture Free Inventory together with two measures of depression. Correlations between Self-Esteem and depression were significant ($r = -.34$ to $-.75$) for both measures of depression.

In addition, Battle (1981) indicated that the Personal subscale provides high correlations with depression from among the Culture Free subscales ($r = -.61$ and $r = -.73$). Therefore it could be concluded that the adolescent females participating in this study were reflecting diminished feelings of personal worth to a degree not experienced by the male subjects. However, caution must be applied in such a conclusion since inventory total scores between the sexes were not significant during the time of the study.

Results of the Pearson's product moment correlation generally confirmed Coopersmith's (1981) view of the Culture

Free SEI (total score) as a credible alternate form to the Coopersmith SEI. Battle (1977) documented correlations between the Coopersmith SEI and the Culture Free SEI which ranged from 0.71 to 0.80. The correlation of 0.81 for the total scale scores found in the present study indicated an alternate form reliability between these two inventories. In addition, subscale correlations with total scale scores indicated that these relationships were significant and ranged from moderate to extremely high loadings accounting for much of the variance between the various scales (Table 9).

B. Counselling Implications

The results of the present study clearly demonstrated that self-information delivered on one occasion in the form of the Strong Campbell Interest Inventory results was not sufficient to improve the adolescent's Self-Esteem. However, one cannot immediately presume that such personal information is therefore irrelevant to the vocation client. Even though this information did not impact on the core personality dimension of Self-Esteem in the study population it is still important to provide this type of test information as it has proven its relevance in directing individuals in their career pathways.

Client satisfaction based on the receipt of vocationally relevant information may be difficult to

quantify and study. However, the author noted that the results of the Strong Campbell Interest Inventory proved helpful for many students in the experimental sample group. The "treatment session" provided these subjects with vocational information and also allowed an open forum in which to discuss the personally relevant materials and other ideas. If nothing else then, this exercise did little more than to water seeds of aspirations previously planted and rooted in the subjects' Self-Concepts.

The findings of the study also lend support to the equivalence of Self-Esteem between the genders in adolescence - a most crucial period in human growth and development.

The following recommendations regarding Self-Esteem and vocational test information were not investigated in the present study but emerged from the author's experience with the subjects and the treatment material. First, the subjects of the study were not voluntary vocational clients but instead were recruited in an educational setting where previous vocational interest testing had not been performed. There was no way of controlling for those who were actively seeking solutions for vocational problems. This was a shortcoming of the present study which ought to be investigated perhaps within a similar study at a later date.

A second recommendation is suggested by way of a caution regarding the Strong Campbell Interest Inventory. The author is familiar with representatives of outside sources in the Career Counselling field who have remarked that clients come to Career Counselling agencies having on a prior occasion received the Strong Campbell. However, the presentation of the data was sparse and unprofessional creating confusion for the clients rather than providing clarity to their career plans. This researcher likewise found that without a proper interpretation the Strong Campbell created more questions than answers. The instrument is sophisticated and is not designed for self-interpretation, especially by high school adolescents.

C. Recommendations for Further Study

The present study was conducted: (1) on a small sample of adolescents where male subjects were not represented in an equivalent proportional basis to female subjects, and (2) the subjects were not identified as career counselling clients per se. These limitations prompt the following recommendations for future research.

1. A study should be conducted on a large group of adolescent high school students at the grade 9 level of educational development.
2. The proposed study must also meet the following additional criteria:

a. the sample should represent more equivalent numbers of male and female subjects throughout the study groups.

b. The subjects ought to represent primarily Career Counselling clients rather than recruits of the acceptable developmental age alone.

3. The proposed study should look at post-test differences in response to the SCII based on high, medium and low pre-test measures of Self-Esteem.

D. Conclusions

The Strong-Campbell Interest Inventory provides the vocational client with pertinent information regarding potentially satisfying careers and occupations. This information reflects components of the client's vocational Self-Concept.

In the present study the impact of the Strong-Campbell Interest Inventory was measured by way of Self-Esteem measures following the presentation of individual profiles to grade eleven adolescents.

An increase in Self-Esteem was not observed as hypothesized.

There was a suggestion that male adolescents demonstrated higher levels of Self-Esteem on the Culture Free Personal Self-Esteem subscale.

The Coopersmith Self-Esteem Inventory and the Culture Fee Self-Esteem Inventory demonstrated significant correlations indicating alternate form validity between the scales.

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VII. APPENDIX

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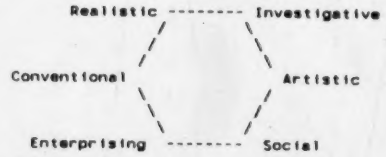
The Strong-Campbell Interest Inventory is a test of likes, dislikes, and preferences. It reports interests, not aptitude. An aptitude test indicates the amount of skill or knowledge necessary to predict success in an occupation. With the SCII, you will learn about the strength of your interests and can consider if the interest is sufficient to motivate you to acquire the skills to work in that field. Please work closely with your counsellor to explore the meaning of your interest profile and the implications of this information on your future plans.

Your report moves from rather global General Occupational Themes through 23 Basic Interest scales to specific Occupational Scales. The six General themes introduced in the following section have also been used to organize your results throughout your profile.

GENERAL OCCUPATIONAL THEMES

Do you prefer to work with people or things? Do you prefer clear-cut rules or a great deal of freedom? Would you rather study and understand for yourself or share your knowledge and services with others? You probably know someone who would choose one of the above to the exclusion of the other five. There are others who are combinations of several or all of these preferences.

Professor John Holland suggests that we can describe what type of person we are and the kinds of interests we have by using six adjectives or categories. They are shown as being related to one another at the the points around a hexagon.



The Realistic person works with concrete things. This work environment includes other realistic people too. Mechanics, farmers, and engineers score high on the Realistic scale.

The Investigative person likes to understand, to explore new ideas and investigate things. Biologists, medical technologists, and psychologists are examples of people who score high on Investigative.

Artistic people appreciate freedom, creativity, and self-expression. Artistic occupations include actor, writer, musician, and architect.

The Social person enjoys working closely with others. This work environment includes other social people too. Flight attendants, rehabilitation counsellors, and ministers are examples of Social occupations.

Enterprising people like to sell a service, idea, or product. Food service managers, realtors, and buyers are examples of Enterprising occupations.

The Conventional person likes orderly, well regulated work. Conventional occupations include accountant, banker, and executive housekeeper.

Your General Occupational Theme scales are shown in section "A" of your report. If all six Theme scales appear in one column you show little variation between the Themes. If your six scores are distributed over the seven columns, then you appear to have marked preferences for the kind of people you enjoy associating with and the type of work you will find satisfying. If your interests in the world of work are still forming, you will want to learn more about occupations of all six types.

GENERAL OCCUPATIONAL THEMES: Standard Scores and Scale Titles in Percentile Categories for your Sex

Very Low (0-6)	Low (7-15)	Mod. Low (16-30)	Average (31-69)	Mod. High (70-84)	High (85-93)	Very High (94+)
	**	45 ENTERPRISING	51 CONVENTIONAL	**	62 ARTISTIC	71 REALISTIC
	**	**	**	**	62 SOCIAL	67 INVESTIGATIVE

The next two informative sections of your report are called Basic Interest Scales and Occupational Scales. Each table presents two kinds of information. The seven columns indicate the degree of similarity between your interest pattern and the field or occupation. Similarity ranges from Very Low on the left to the right column labeled Very High. You can see the relative strength of your interests by looking at the range of work contained from column to column. Within each column the work is grouped by General Occupational Themes. If there were Realistic occupations or fields in the column they will appear first at the top of the column. Investigative are second, Artistic third, and so on around the hexagon. Sometimes only one or two themes are represented in a column, while all or no themes may be found in another.

Through this format you are able to see the relative strength of your interests from low to high and follow the General Occupational Themes throughout the report.

BASIC INTEREST SCALES

When completing the SCII you were asked to choose between "like, "indifferent, and "dislike." Some of the statements you said you "liked" are related to broad job families. Those Basic Interest Scales for which you expressed a high number of "likes" appear in the righthand columns. Those job families with no "likes" will be in the lefthand columns.

Use the information in this section of your profile to help you think about a wide range of skills you would enjoy performing in these fields. Notice that the Basic Interest Scales, like the Occupational Scales are given RIASEC codes. Much can be learned from comparing high scores on scales having the same or similar RIASEC codes, across all three scale types (Occupational, Basic Interest, and General Occupational Themes).

BASIC INTEREST SCALES: Standard Scores, RIASEC Codes, and Scale Titles in Percentile Categories for your Sex

Very Low (0-6)	Low (7-15)	Mod. Low (16-30)	Average (31-69)	Mod. High (70-84)	High (85-93)	Very High (94+)
	39 S Athletics	46 E Law/Politics	55 R Agriculture	59 R Military Act.	67 R Adventure	71 R Mechanical Act.
	39 C Office Practice	42 E Merchandising	51 E Public Speaking	61 I Mathematics	61 R Nature	69 I Medical Service
	**	**	47 E Business Mgmnt	57 A Music/Dramatics	58 A Art	68 I Science
	**	**	44 E Sales	55 A Writing	**	66 I Medical Science
	**	**	**	57 S Social Service	**	68 S Religious Act.
	**	**	**	55 S Teaching	**	**
	**	**	**	49 S Domestic Arts	**	**

OCCUPATIONAL SCALES

The Occupational Scales of the SCII were developed by testing a large group of successful and satisfied people working in each of 85 occupations. For example, 294 male police officers and 206 female police officers answered the same 325 questions as you did. With the help of computers, the test authors discovered a characteristic way that male police officers answer the 325 questions. They tend to all respond in a similar manner, which is uniquely different from the responses of female police officers and from the responses of male and female workers in the other 84 occupations.

Your answers have been compared for similarity to the scoring key, or standard, for men and women in these 85 occupations. The amount of agreement has been ranked for you in the seven columns. The occupation that your interests are most different from are in the lefthand column labeled "Very Dissimilar." Your interests are most like those people working in the fields shown by the occupations in the rightmost column that carries an entry normed for your sex. If you indicated your sex on the answer sheet, then the comparisons of interest for your sex appear above those for the other sex in each column. The scales for your sex are more likely to be good predictors for you than scales of the other sex would be.

Looking closely at an occupation, you will notice a standard score to the left of it. The standard score shows the rank ordering of the amount of similarity between your answers and those of the people in that occupation. Between the score and the occupation title are from one to three letters, in any combination of RIASEC. These have the same meaning throughout your report as presented in the General Occupational Themes section of this discussion.

The Occupational Scales section does not say "you should be a ..."; rather it indicates those representative occupations that your interest pattern is most similar to.

C) OCCUPATIONAL SCALES: Standard Scores, RIASEC Codes, and Occupational Titles

Lo-12=Very Dissimilar	13-21=Dissimilar	22-27=Mod. Dissim.	28-39=Mid-Range	40-45=Mod. Similar	46-54=Similar	55-Hi=Very Similar
***Using Male Norms	**Using Male Norms	**Using Male Norms	**Using Male Norms	**Using Male Norms	**Using Male Norms	**Using Male Norms
12 E Realtor	18 RCE Voc Ag Tchr	27 RE Police Off.	39 RC Air Force Off	43 RC Navy Officer	48 RI Engineer	57 RAS Occup. Thera
10 EC Buyer	13 AE Public Rel Dr	25 R Farmer	37 R Skilled Craft	44 IRE Chiropractor	54 IR Physician	56 RI Radiol. Tech
9 E Restaurnt Mgr	21 SRE Recreatn Ldr.	24 I Geographer	37 RI Veterinarian	44 I Biologist	50 IRC Computer Prog	62 IRS Math-Sci Tch
7 E Life Insr Agt	20 EI Marketng Exec	26 A Art Teacher	36 R Forester	44 IR Phys. Therap.	50 IR Dentist	61 IR Medical Tech
6 ERC Agribus. Mgr.	16 E Elected Offic	24 A Fine Artist	36 RC Army Officer	42 IRC Systems Anal	49 IAS Psychologist	55 IRS Nurse, R.N.
5 E Chamb Comm Ex	16 EI Invst Fnd Mgr	24 AE Interior Dec.	38 IR Geologist	41 IR Physicist	49 IA College Prof	**********
8 C Accountant	16 E Dept Str Mgr.	22 A Reporter	38 IA Sociologist	41 AIR Architect	48 IR Optometrist	**Using Female Norm
4 CE Banker	13 CES Bus. Ed Tchr	25 SA Social Worker	37 IE Pharmacist	40 AS English Tchr	46 IR Chemist	**********
**********	**********	22 SEC Soc Sci Tchr	35 I Mathematician	44 SIE Minister	49 S Spec Ed Tchr	67 RAS Occup. Thera
***Using Female Norms	**Using Female Norms	24 CE Tax Coll Offr	37 A Musician	41 CER Exec Housekpr	49 SA Speech Pathol	55 RI Engineer
**********	**********	22 CE Credit Mgr.	35 A Frgn Lang Tch	**********	48 S Elem. Tchr.	62 IR Medical Tech
8 AE Interior Dec.	20 AE Public Rel Dr	**********	34 A Photographer	**Using Female Norms	**********	58 IR Optometrist
12 E Beautician	19 S Elem. Tchr.	**Using Female Norms	33 A Librarian	**********	**Using Female Norms	57 IR Physician
2 ES Home Ec. Tchr	19 E Life Insr Agt	**********	32 AE Advertis Exec	45 RIC Nurse (LPN)	**********	56 IR Dentist
12 CE Credit Mgr.	16 EA Flight Attend	26 AE Advertis Exec	30 A Commerc Art	45 IRC Math-Sci Tchr	52 R Radiol. Tech.	62 SI Nurse, R.N.
11 C Secretary	14 E Realtor	26 A English Tchr.	29 AI Lawyer	45 I Geographer	51 RI Forester	**
6 CES Bus. Ed Tchr	13 EC Chamb Comm Ex	25 A Commerc Art	39 S Nurse (LPN)	44 IR Geologist	46 RC Army Officer	**
***	**	25 A Fine Artist	31 SR Phys Ed Tchr	42 I Mathematician	46 R Navy Officer	**
***	**	24 AI Lawyer	30 SCE Guidnce Couns	41 IAS Psychologist	54 IR Phys. Therap.	**
***	**	22 A Frgn Lang Tch	29 SE School Admin.	42 S Spec Ed Tchr	53 IA College Prof	**
***	**	27 SEC Soc Sci Tchr	28 SE YMCA Director	42 SA Speech Pathol	53 IR Chemist	**
***	**	26 E Personnel Dir	32 EA Flight Attend	**	49 IRC Computer Prog	**
***	**	25 EC Purch. Agent	32 ECR Dietitian	**	48 IRC Systems Anal	**
***	**	24 E Elected Offic	31 EC Purch. Agent	**	47 I Pharmacist	**
***	**	24 EC Restaurnt Mgr	30 E Personnel Dir	**	47 I Biologist	**
***	**	23 EC Buyer	28 EA Beautician	**	47 IR Physicist	**
***	**	23 ECS Nurs Home Adm	28 ES Nurs Home Adm	**	47 IRE Chiropractor	**
***	**	22 EI Marketng Exec	31 CA Public Admin.	**	46 IR Veterinarian	**
***	**	22 E Public Admin.	**********	**	47 SA Minister	**
***	**	22 E Dept Str Mgr.	**Using Female Norms	**	**	**
***	**	27 C Dental Assist	**********	**	**	**
***	**	23 C Accountant	36 RC Air Force Off	**	**	**
***	**	23 CE Banker	35 RE Police Officr	**	**	**
***	**	**	29 R Farmer	**	**	**
***	**	**	38 IR Dental Hygien	**	**	**
***	**	**	36 IA Sociologist	**	**	**
***	**	**	37 AIR Architect	**	**	**
***	**	**	35 A Photographer	**	**	**
***	**	**	34 A Musician	**	**	**
***	**	**	33 A Librarian	**	**	**
***	**	**	31 A Art Teacher	**	**	**
***	**	**	31 A Reporter	**	**	**
***	**	**	38 SEC Guidnce Couns	**	**	**
***	**	**	37 SE YWCA Director	**	**	**
***	**	**	34 SE School Admin	**	**	**
***	**	**	34 SRE Recreatn Ldr	**	**	**
***	**	**	32 SA Social Worker	**	**	**
***	**	**	31 SR Phys Ed Tchr	**	**	**
***	**	**	34 EC Dietitian	**	**	**
***	**	**	39 CE Tax Coll Offr	**	**	**

|** |** |39 CER Exec Housekpr|** |** |**

FOR COUNSELOR USE ONLY---a diagnostic message appears if one of your ADMINISTRATIVE INDICES is out-of-range.

SPECIAL SCALES		ADM. INDICES		ALL ITEMS			OCCUP.			SCH.SUB.			ACTIVITY			AMUSEMENT			PEOPLE			TYPE			PREFER			CHAR.		
AC	IE	TR	IR	LP	IP	OP	LP	IP	OP	LP	IP	OP	LP	IP	OP	LP	IP	OP	LP	IP	OP	LP	IP	OP	LP	IP	OP	LP	IP	OP
69	42	325	10	48	32	19	38	31	31	58	36	6	61	33	6	51	31	18	50	50	0	40	27	33	79	21	0			

STRONG-CAMPBELL INTEREST INVENTORY OF THE STRONG VOCATIONAL INTEREST BLANK, FORM T325.
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E) Your high basic interest scores indicate general interest areas. If you are young, these scores (except office practices, adventure, religious act., athletics, and social service) probably will increase. Your top interest scales are explained and related to high and low scoring occupations. Below each interest is the 1965 DICTIONARY OF OCCUPATIONAL TITLES(DOT) 3-digit code number followed by a 3-digit number for DATA-PEOPLE-THINGS(DPT), 1975 OCCUPATIONAL OUTLOOK HANDBOOK(OOH) RATING(E=excel., H=high, G=good, S=slow increase, C=crowded, D=decline steadily) and OOH reference pages. (example= ARTIST A 142081H589. ARTIST is A=ARTISTIC GENERAL THEME, DOT CODE=142, DPT CODE=081, H=high employment outlook, see OOH pages 589+) X= missing or unclear.

Your 5 VERY HIGH basic interests are as follows

BASIC AREA	PSYCHOLOGICAL EXPLANATION	TYPICAL OCCUPATIONS SCORING LOW	TYPICAL OCCUPATIONS SCORING HIGH
MECHANICAL ACT 630XXXX403	• enjoys mechanical objects, solve concrete to abstract problems	WRITERS, POL.SCI., SALESPERSONS, LAWYERS, LANG.-ENGLISH TEACHERS	CHEMISTS, DENTISTS, ENGIN., MED.TECH SKILL-TRADES, MACHINISTS, CARPENTERS
MEDICAL SER. 07OXXXE463	• works directly with people having physical difficulties	ARTISTS, FARMERS, WRITERS	DENTISTS, DENTAL ASST., PHYS.THERAP. NURSES, LIC.PRACT.NURSES, PHYSICIANS
SCIENCE X02XXXX329	• enjoys scientific concepts and intellectual problems, research work	ARTISTS, BEAUTICIANS, BUS. EXEC., INTERIOR DECOR., WRITERS, SALES	BIOLOGISTS, CHEMISTS, COLLEGE PROFS. PHYSICISTS, PHYSICIANS, ASTRONOMERS
MEDICAL SCI. 041XXXE363	• likes medical, chemical and biological concepts and applications	BUS.ED.TEACH., ARTISTS, FARMERS, WRITERS, SEW.MACH.OPERATORS	DENTISTS, MED.TECH., PHYSICIANS, VETERINARIANS, PHYSICAL THERAPISTS
RELIGIOUS ACT. 12OXXXG553	• likes activity of religious and spiritual nature	ARTISTS, CHEMISTS, PHYSICIANS	CHRISTIAN EDUCATION DIRECTORS, NUNS

Your 3 HIGH basic interests are as follows

BASIC AREA	PSYCHOLOGICAL EXPLANATION	TYPICAL OCCUPATIONS SCORING LOW	TYPICAL OCCUPATIONS SCORING HIGH
ADVENTURE 370XXXXXXX	• likes excitement, danger, challenges, risks and thrills	JUDGES, MATHEMATICIANS, PHYSICISTS, BANKERS, SCHOOL SUPERINTENDENTS	ASTRONAUTS, MILITARY OFFICERS, POLICE OFFICERS, SALES PERSONNEL
NATURE 440XXXX332	• likes plants, animals, growing things, being outdoors. (dislikes city life).	SALES, BUS.EXEC., FASHION MODELS, NIGHTCLUB ENTERTAINERS	ANIMAL HUSBANDRY PROFS., BIOLOGISTS, FARMERS, FORESTERS, VOC.AGRI.TEACH.
ART 140XXXX586	• expresses artistic feelings, enjoys prominent artistic people, activity	BUS.ED.TEACH., ACCOUNTANTS, VETS., BANKERS, FARMERS, SEW.MACH.OP.	ARTISTS, ACTORS, OCCUP.THERAPISTS, ARCHITECTS, INTERIOR.DECOR., PHOTOG.

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F) Your HIGHEST general occupational theme score for your sex is VERY HIGH.
R=REALISTIC THEME. Extreme examples here are rugged, robust, practical, physically strong, and frequently aggressive in outlook. Such people usually have good physical skills, but sometimes have trouble expressing themselves in words or in communicating their feelings to others. They like to work outdoors, and they like to work with tools, especially large, powerful machines. They prefer to deal with things rather than with ideas or with people. They generally have conventional political and economic opinions and are usually cool to radical new ideas. They enjoy creating things with their hands and prefer occupations such as mechanic, construction work, fish and wildlife management, laboratory technician, some engineering specialties, some military jobs, agriculture, athletics, or the skilled trades. High-scoring fields are carpenter, forester, highway patrol, machinist, tool-die maker, and vocational agriculture teacher.

G) Your SECOND HIGHEST general occupational theme score for your sex is VERY HIGH.
I=INVESTIGATIVE THEME. This theme tends to center around science and scientific activities. Extremes of this type are task-oriented. They are not particularly interested in working around other people. They enjoy solving abstract problems and have a great need to understand the physical world. They prefer to think through problems rather than act them out. Such people enjoy ambiguous challenges and do not like highly structured situations with many rules. They frequently have unconventional values and attitudes and tend to be original and creative, especially in scientific areas. They prefer occupations such as design engineer, biologist, social scientist, research laboratory worker, physicist, technical writer, or meteorologist. High-scoring fields are astronomer, chemist, college professor, mathematician, math science teacher, medical technologist, physician, and psychologist.

H) Your THIRD HIGHEST general occupational theme score for your sex is HIGH.
A=ARTISTIC THEME. The extreme type here is artistically oriented, and likes to work in artistic settings where there are many opportunities for self-expression. Such people have little interest in problems that are highly structured or require gross physical strength, preferring those that can be dealt with through self-expression in artistic media. They resemble I-theme types in preferring to work alond, but have a greater need for invididualistic expression, are usually less assertive about their own opinions and capabilities, and are more sensitive and emotional. THey score higher on measures of originality than any of the other types. They describe themselves as independent, original, unconventional, expressive, and tense. Vocational choices include artist, author, cartoonist, composer, singer, dramatic coach, poet, actor or actress, and symphony conductor. High-scoring fields are advertising exec., architect, interior decorator, minister, musician, music teacher, photographer and sculptor.

I) Your FOURTH HIGHEST general occupational theme score for your sex is HIGH.
S=SOCIAL THEME. The pure types here are sociable, responsible, humanistic, and concerned with the welfare of others. They usually express themselves well and get along well with others. They like attention and seek situations allowing them to be at or near the center of the group. They prefer to solve problems by discussions with others, or by arranging or rearranging relationships between others. They have little interest in situations requiring physical exertion or working with machinery. Such people describe themselves as cheerful, popular, achieving, and good leaders. They prefer occupations such as school superintendent, clinical psychologist, high school teacher, marriage counselor, playground director, speech therapist, or vocational counselor. High-scoring fields are marriage-guidance counseling, elementary teacher, minister, police officer, social science teacher, social worker, and YMWCA staff.

G)

THE FOLLOWING SPECIAL SCALE SCORE INTERPRETATIONS ARE MAINLY FOR YOUR COUNSELOR AND MUST BE USED WITH CAUTION.

AC= 69 The Academic Comfort scale will identify successful arts and sciences students. However, it is designed for predicting probable satisfaction and persistence in an academic setting. Most graduate students score about 55. Students scoring below 40 see education as a necessary hurdle to a career. They prefer the practical aspects of life. Your score should increase about 10 points during four years of college. Your present AC score is similar to the average score of a/an PH.D. STUDENT, CHEMIST, PHYSICIST, PSYCHOLOGIST, MATHEMATICIAN, COLLEGE PROFESSOR, PHYSICIAN, INTERPRETER.

IE = 42 The Introversion-Extroversion scale shows how well you like to work alone with things and/or ideas, or closely with other people, especially in social service settings. Scores of 60-80 are typical of workers in non-people-oriented occupations whereas scores below 40 are typical of people-oriented occupations. Your IE score is similar to the average score of a/an GUIDANCE COUNSELOR, LIFE INSURANCE AGENT, ENGLISH TEACHER, SOCIAL SCIENCE TEACHER, SCHOOL SUPT., PUBLIC ADMINISTRATOR, YWCA STAFF, FLIGHT ATTEND., PERSONNEL DIR., MINISTER, DEPT.STORE MGR., RECREATION LEADER, SALES MGR.

H) REGIONAL INTEREST-APTITUDE CAREER GUIDE

Excellent career decisions do not just happen but are the result of using the best information available in an effective manner. They are based on knowledge about (1) what type of work situations you like and dislike, (2) your different abilities and how each relates to the world of work, and (3) the educational and training programs that offer specific instruction for your career preparation. This report has assembled appropriate information for you in all three areas to aid you in a career choice.

You undoubtedly will be the most satisfied and effective when working in an area where your likes and dislikes are similar to those of the people who have chosen that occupation and found it satisfying. Some typical occupations you probably would find satisfying have been identified by your scores on the STRONG-CAMPBELL INTEREST INVENTORY(SCII). The SCII has been researched extensively and is used internationally to assist millions of people to relate their interest pattern to the world of work. It compares your likes and dislikes based on 325 items to the likes and dislikes of qualified people working in specific occupations for three or more years who are satisfied with their career choice. Research has shown that 68 to 88 percent of the people who scored high on an occupational scale actually worked in that field or a closely related field during their working career.

The regional Career Guide, begining at section I provides you with more detailed information about your highest Occupational scales. In the following section, notice the heading "SCII Career Interests"; below appears the Occupation scale that is most similar to your interest pattern. Several sources of additional information are listed just below the name of the Occupational scale. The first is the Guidance Centre monograph number, followed by the Canadian Classification Dictionary of Occupations (CCDO) code number. Many counsellors organize their career information files using this code number.

The next row says DOT DPT which stand for the U.S. Dictionary of Occupational Titles; and Data, People, Things; with their respective catgagories for the Occupation indicated below the abbreviation. The Data-People-Things code numbers indicate the level of involvement with each area (0=high involvement and 8=low involvement).

DATA(1ST DIGIT)	PEOPLE (2ND DIGIT)	THINGS (3RD DIGIT)
0=SYNTHESIZING	0=MENTORING (A)	0=SETTING-UP
1=CO-ORDINATING	1=NEGOTIATING (B)	1=PRECISION WORKING
2=ANALYZING	2=INSTRUCTING	2=OPERATING-CONTROLLING
3=COMPILING	3=SUPERVISING	3=DRIVING-OPERATING
4=COMPUTING	4=DIVERTING (C)	4=MANIPULATING-OPERATING
5=COPYING	5=PERSUADING	5=TENDING
6=COMPARING	6=SPEAKING-SIGNALING	6=FEEDING-OFFBEARING
7=	7=SERVING	7=HANDLING
8=NO RELATIONSHIP	8=NO RELATIONSHIP	8=NO RELATIONSHIP

DEFINITIONS=
(A):MENTORING= dealing with people in terms of their personality in order to advise, counsel and/or guide them with regard to problems that may be resolved by legal, scientific, clinical, spiritual and/or other professional areas.
(B):NEGOTIATING= exchanging ideas and opinions with others to formulate policies and programs or to arrive jointly at a decision.
(C):DIVERTING= entertaining others.

The last entry under the Occupation are page numbers in a recent edition of the U.S. Occupational Outlook Handbook. There you will find descriptive information about the field in the U.S. labour market. Your counsellor may also be able to supply you with recent information from Employment and Immigration Canada such as "Careers Provinces" and other valuable publications.

To the right of the Occupation are listed the training programs available in your region. The minimum entrance requirements, length of training and location are helpful in planning your educational program. Finally, at the far right are the aptitude test "cutting scores" which are suggested minimum levels of proficiency to predict a person's ability to master the skills of the occupation. The Differential Aptitude Test (DAT) is composed of eight subscales (VR=verbal reasoning, NA=numerical ability, AR=abstract reasoning, CSA=clerical spped and accuracy, MR=mechanical reasoning, SR=spatial relations, SP=spelling, LU=language usage). DAT scores are reported in percentiles, with those in parentheses considered an essential level of aptitude to predict success in the Occupation. The General Aptitude Test Battery (GATB) has 11 subtests (G=general intelligence, V=verbal ability, N=numerical ability, S=spatial perception, P=form perception, Q=clerical perception, K=motor coordination, F=finger dexterity, M=manual desterity, E=eye-hand-foot coordination, C=color discrimination). Levels of aptitude are reported in five catagories: 1=the top 10% of the population; 2=the top third less the top 10%; 3=the middle third; 4=the lower third less the lowest 10%; 5=the lowest 10% of aptitude in the population.

When both your career interest and aptitude patterns support each other you will want to consider that area seriously in regard to the educational-training program and minimum educational requirements. Since there is often a range of requirements and levels of work you may need to choose between striving to be near the top of a less demanding field or working hard just to get into the lowest level of a more demanding field. Thus you will want to consider very carefully the entrance requirements, length of the educational-training program and the location of instruction within your region before making a final decision.

I) The following occupations, for your sex, are recommended to you because of your high SCII occupational interest on page 3 of this printout. Each occupation listed below is typical of many closely related occupations which you should also find satisfying. If you can meet the suggested requirements. Your counsellor can help you understand your scores and secure the referenced material to investigate further any of the following occupational interests. CAUTION: all suggested minimums are Non-Canadian.

SCII CAREER INTERESTS	TRAINING PROGRAMS	MINIMUM ENTRANCE REQUIREMENTS	LENGTH OF TRAINING	LOCATION OF TRAINING	APTITUDE MINIMUMS DAT PCT.	GATB
Your occupational interests are VERY SIMILAR to those of people working in the following field. It should be very satisfying.						
MATH-SCIENCE --- TEACHER --- G.C. 01-103 CCDO 2733	B Ed (Major in Math and/or Sci)	Gr XII + Engl 30 + Strong Math and/or Sciences background. other subjects related to field of study. Speech Test.	4 yrs.	U. of Alberta,Calgary or Lethbridge.	VR(78) NA 53 AR(53) CSA 53 MR 01 SR 53 SP(53)	G(2) V(2) N(3) S 4 P 3 Q(3) K 4

	M. Sci. M. Ed. M.A. (Many Majors)	B.Ed. + satisfactory grades and teaching experience.	varies with background.	U. of Alberta U. of Calgary	LU(53)	F 4 N 4 E 5
DOT DPT 091 228 OOH 370 1978-1979						

Your occupational interests are VERY SIMILAR to those of people working in the following field. It should be very satisfying.

MEDICAL TECHNOLOGY ----------	Medical Laboratory Tech. (Diploma)	Gr. XII with Chem. 30, Engl. 30, Math. 30, minimum age of 17 1/2, physical certificate Interview required.	8 mos.	Alberta Vocational Center (Edmonton	VR 53 NA(53) AR(33) CSA 33 MR(53) SR(53)	G(2) V(2) N(2) S 3 P(2) Q 3
G.C. 01-174 CCDO 3156						
	as above	Gr. XII with Biol. 30, or Phys. 30, Chem. 30, Math. 30, Engl. 30, and one other Gr. XII subject.	2 years	Nait, Edmonton Sait, Calgary	SP 33 LU 33	K 3 F(3) M 3 E 5 C(3)
DOT DPT 078 128 078 381 OOH 476 1978-1979						

Your occupational interests are VERY SIMILAR to those of people working in the following field. It should be very satisfying.

OCCUPATIONAL THERAPY ----------	Occupational Therapy (Diploma)	Gr. XII with Engl. 30, Math. 30, Biol. 30 recommended, with 2 other subjects at Gr. XII Level	3 yrs.	U. of Alberta	VR(53) NA 53 AR(53) CSA 53 MR(53)	G(2) V(2) N 3 S 3 P 3
G.C. 01-123 CCDO 3137						
	(Degree)	as above with satisfac tory grades in the dip-loma program	1 yr.	U. of Alberta	SR(53) SP 53 LU 53	Q 3 K 4 F(3)
DOT DPT 079 128 OOH 495 1978-1979						M(3) E 4 C 5

Your occupational interests are VERY SIMILAR to those of people working in the following field. It should be very satisfying.

RADIOLOGICAL TECHN. ----------					VR 53 NA(53) AR(53) CSA 33	G(2) V(2) N(2) S(3)
MEDICAL X-RAY TECHN. ----------						
G.C. 01-137 CCDO 3155	Medical X-Ray (Diploma)	Gr. XII with Engl. 30, Math 30, two of Biol. 30, Chem. 30, and Physics 30, 1 other Gr. XII with an overall average of 60 PCT. or better.	2 yrs.	Nait, Edmonton	MR(53) SR(53) SP 33 LU 33	P(3) Q 3 K(3) F(3) M 3 E 5
DOT DPT 078 368 OOH 483 1978-1979	as above	Gr. XII with Chem., Engl. and Math. Minimum age 17 1/2 yrs. Physically fit Personal interview	2 yrs.	Alberta Vocational (Edmonton)		

	Nuclear Medicine Technology (Diploma)	Gr. XII with Chem. 30, Engl. 30, Math 30 or 31, and Physics 30.	2 yrs.	Salt, Calgary		

Your occupational interests are VERY SIMILAR to those of people working in the following field. It should be very satisfying.

NURSE (Registered)					VR(53)	G(2)
					NA 53	V(2)
G.C. 01-110	B. Sc.	Gr. XII with Chem. 30,	4 yrs.	U. of Alberta	AR(53)	N 3
CCDO 3131	(Nursing)	Engl. 30, Biol. 30,			CSA 53	S(3)
		and 2 Gr. XII subjects.			MR(53)	P(3)
		Personal Interview.			SR 53	Q(3)
					SP 53	K(3)
DOT DPT	B.N.	Gr. XII with Biol. 30,	4 YRS.	U. of Calgary	LU 53	F(3)
075 378	(Nursing)	Chem 30, Engl. 30,				M 4
OOH 488		Math 30, and 1 other				E 5
1978-1979		Gr. XII subject				C 5
	Diploma in Nursing	Medical Certificate Personal Interview, Gr. XII + Engl 30 or 33, Biol 30, + two other acceptable Gr.XII subjects Check each center f or specific requirements. Chem. 30 recommended	2 yrs.	Grant MacEwan C., Edmonton Medicine Hat C. Mount Royal C., Calgary Red Deer C.		
	Hospital programs in Nursing	Gr. XII with Engl 30, Biol 30, Chem. 30, plus two other Gr. XII subjects. Personal interviews Medical requirements	3 yrs.	Foothills, Calgary Holy Cross, Calgary Misericordia, Edmonton Royal Alexandra, Edmonton Municipal, Lethbridge		
	For more detailed information write Alberta Association of Registered Nurses, 10256- 112th Street, Edmonton, Alberta, T5K 1M6					
	PSYCHIATRIC NURSE (Diploma)	Gr. XII with Engl. 30, Biol 30, Chem 30, 1 other Gr. XII subject Physical examination, Personal Interview.	2 yrs.	School of Nursing, Alberta Hospital, P.O. Box 307, Edmonton, T5J 2J7		

Your occupational interests are SIMILAR to those of people working in the following field. It should be satisfying.

PHYSICIAN	Faculty of Medicine (M.D.)	Minimum of two yrs. Pre-Med, with prescribed courses. Satisfactory grades. A strong High School background in Math and Sciences.	Min. 2 yrs. PRE-MED AND 4 YRS. MED.	U. of Alberta, EDMONTON	VR(78)	G(1,2)
					NA(53)	V(1,2)
G.C. 08-002					AR(78)	N 2
CCDO 3111					CSA 53	S(1)
					MR 53	P(2)
					SR(53)	Q 3
					SP 53	K(2)
DOT DPT	Faculty of Medicine (M.D.)	Min. of 2 yrs. Pre-Med with 7 prescribed courses available in number of Faculties.	Min. 2 yrs. Pre-Med. with 3 yrs. Med. +	U. of Calgary	LU 53	F(2)
070 101						M 2
070 108						E 5
OOH 463						
1978-1979						
	Pre Medicine	Strong High School background in MathS and Biol, Chem, Phys	2 yrs. Transfer to Med at either UC or UL.	U. of Lethbridge		
	All programs in Medicine require a strong background in Math and Sciences.					

Your occupational interests are SIMILAR to those of people working in the following field. It should be satisfying.

DENTIST	D.D.S. (Dentistry)	2 yrs. in Faculty/College of Science or Arts with credits in Biology, General Chem., Organic Chem., and Phys. Gr. XII with Math. 30, Engl. 30, CHEM. 30, BIOL. 30, PHYS. 30	4 years + 2 years of Pre-Dent.	U. of Alberta	VR(78) NA(53) AR(78) CSA 53 MR 53 SR(53) SP 53 LU 53	G(1) V(1) N 2 S(1) P(2) Q 3 K(2) F(2)
G.C. 01-106 CCDO 3113						
DOT DPT 072 108 OOH 449 1978-1979		PreDentistry Program available		U. of Calgary U. of Lethbridge		M 2 E 5 C 3

Your occupational interests are SIMILAR to those of people working in the following field. It should be satisfying.

COMPUTER PROGRAMMER	Computer Science (Diploma)	Gr.XII or 18 yrs. old	2 yrs.	Mount Royal, Calgary	VR 53 NA(78) AR 78	G(2) V(2) N(2)
G.C. 01-269 CCDO 2183	Computer Tech. (Diploma)	Gr.XII with Math 30, 31, 33 or 36.	2 yrs.	Nait, Edmonton Nait, Calgary	CSA 78 MR(78) SR(78)	S(2,3) P 3 Q(3)
	Bus.Admin In Data Processing(Dipl.)	Gr.XII	2 yrs.	Lethbridge C.C.	SP 53 LU 53	K 4 F 4
DOT DPT 012 168 OOH 111,699 1978-1979	B. COMM.	Gr.XII with Eng.30, Math 30, Soc.30, + Humanities and Sciences recommended.	4 yrs.	U. of Alberta Athabasca U.		M 4 E 5 C 5
	B. COMM.	Gr.XII with Eng.30, Math 30, Math 31 and 2 other Gr.XII subjects are recommended.	4 YRS.	U. of Calgary		
	B. COMM.	Transfer to a Univ. with commerce after 2 yrs. Arts at Lethbridge. See above req.	2 yrs. with transfer with 2 yrs. Comm.	U. of Lethbridge		

Your occupational interests are SIMILAR to those of people working in the following field. It should be satisfying.

SPEECH PATHOLOGIST	Completion of one pre-professional year of required and appropriate university level courses. Competitive.				VR(55) NA 55 AR(55) CSA 55 MR(55) SR(55) SP 55 LU 55	G(2) V(2) N 3 S 3 P(2) Q 3 K 4 F 3 M 4 E 5 C 4
G.C. 01-297 CCDO 3137-114 DOT DPT 078 108	B.Sc. Speech Pathology and Audiology	Senior Matriculation plus pre-professional year.	4 years	U. of Alberta		

Your occupational interests are SIMILAR to those of people working in the following field. It should be satisfying.

COLLEGE PROFESSOR	In order to become a college professor a student must have a Secondary School Program, have high academic standing in their Undergraduate Degree work, secure at least a Master's Degree in an area of specilization, and preferably possess a Ph D. This totals from 6 to 10 years of University training.				VR(78) NA 53 AR(53) CSA 53 MR 01 SR 53 SP(53) LU(53)	G(1) V(1) M(1) S(2) P(2) Q(3) K 3 F 3 M 3 E 5 C 4
G.C. 01-245 CCDO 2711						
DOT DPT 090 228 OOH 215 1978-1979						